UIL CALCULATOR APPLICATIONS DRILL MANUAL FOR NUMERICAL PROBLEM PRACTICE

Twenty-six Versions of Pages 1-7

Professor David L. Bourell, Ph.D., P.E.
Temple Foundation Professor
Department of Mechanical Engineering

Calculator Applications Directors

University Interscholastic League

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PREFACE

Even in a culture of high-tech gadgetry and high-power computational tools, there is value in operating a calculator quickly and accurately. This drives the continued presence of the numerical problems, or number crunchers, on the UIL Calculator Applications Contest. These problems are the easiest of the three types that appear on the contest, including stated and geometry problems. The general wisdom in improving speed and accuracy with the number cruncher problems is simply to practice a lot. That is the purpose of this drill manual. It provides 26 versions of all seven pages of the contest, 910 problems in all.

There are several functions of the number crunchers on the contest. Perhaps the best argument is that they provide a sense of accomplishment quickly for beginners, since working all the crunchers correctly gives a score of over 100. They provide a foundation for extension of knowledge into the more complicated stated and geometry problems.

The UIL Calculator Applications Contest underwent major revision starting with the 2004-05 contest year. With the minor exception of some problem location on the test, the contest had not been revised since its inception in 1980. Since then, instruction of pre-calculus and calculus across the state has become widespread in all conferences. Equally dramatic changes have taken place in the computational features of calculators. A strong driver for revision was the ubiquitous use of a single calculator of choice, the Hewlett-Packard hp32SII. In 2002, Hewlett Packard announced that the calculator was being discontinued without an acceptable replacement being available. This created an instant competition barrier between "have" schools and "have not" schools. There was therefore a desire to "calculator-proof" the contest to prevent this undesirable situation from occurring in the future.

The main changes to the number crunchers in this revision process was a reduction from 54 to 35 problems per test. The old contest was 68% number crunchers, and the current contest is 50% number crunchers. The method for generating the number crunchers is described in the introduction section of this manual. Rather than lose variety by eliminating problem forms to reduce the number of problems per page to five, the problem forms have been combined.

It is hoped that this new compendium of practice materials becomes a useful tool for coaches and students who participate in the UIL Calculator Applications Contest. I also trust that you, the reader, have shared or shortly will share the satisfaction of seeing students mature and excel, the joy of working with pleasant and highly-capable coaches, and the intellectual stimulation of grasping at the unknown.

D.L.B.

January 15, 2004
Austin, Texas

PREFACE TO THE 1993 EDITION

We are convinced that the most effective method for mastering the "number crunchers" on the UIL Calculator Applications Contest involves lots of practice. This belief is the motivation for this drill manual. It is our intent that these test partials be freely copied and used for this purpose. The copyright is solely to prohibit their use by others for profit.

The UIL Calculator Applications Contest was first given at the district level in 1980. The driving force for its creation was the demise of the slide rule contest with the advent of relatively inexpensive hand-held calculators. Those of us who competed in the slide rule contest, or who actually made a living using one, share a little nostalgia over the skills associated with its use. The pride of mastering the "slip stick" aside, we know that the slide rule taught clearly several mathematical fundamentals not easily transferred to the calculator. For example, the concept of three-significant-digit answers was really obvious when a slide rule was used, since that's the usual measure of manual precision. The logarithm and its components, the mantissa and characteristic, were handled with simple elegance on the slide rule. The basic operating rule of the slide rule is that adding logarithms is equivalent to multiplying their arguments. Thus manual manipulation of slide rules provided a physical model for mathematical manipulation of logarithms.

This notwithstanding, we believe that greater causes are being served by a calculator contest. First, the computational ease of the calculator allows for an increased emphasis on the thinking skills prerequisite to most "real-world" computation. Try to imagine the response you would get from a slide rule champion when you related that top contestants can now work 54 number crunchers error free in less than 15 minutes! The intellectual challenge of the contest today is the stated and geometry problems, although proficiency in accurate, rapid button pushing is critical to success on the contest.

The calculator better assimilates a wider diversity and complexity of problems than the slide rule. Thus the contest has become increasingly more interesting and complex. We have tailored the contest to utilize the ability of calculators to "spit out" lots of significant digits in integer, dollar-sign and significant-digit stated problems. We have retained the default, three-significant-digit requirement for numbers from the slide rule contest, which is now in some sense a legacy to the former contest.

We hope that this new compendium of practice materials becomes a useful tool for coaches and students who participate in the UIL Calculator Applications Contest. We also trust that you, the reader, have shared or shortly will share with us the satisfaction of seeing students mature and excel, the joy of working with pleasant and highly-capable coaches, and the intellectual stimulation of grasping at the unknown.

J.R.C.
D.L.B.

May 4, 1993
Austin, Texas

TABLE OF CONTENTS

PRODUCTION OF THE NUMERICAL PROBLEMS
AND
THEIR ANSWERS

The advent of the calculator led quickly to the obsolescence of the slide rule. No less dramatic has been the replacement of behemoth computational facilities and awkward programming languages by sleek, compact and incredibly powerful desktop computers with their user-friendly application programs. Until 1990, the numerical part of the contest was created using the former technology. Since then, the tests have been generated using desktop computers and C++ programming language. Formatting is done currently in Microsoft Word.

To appreciate the advantage of desktop computing, a brief description of the former method for numerical problem generation is needed. The time necessary to produce a contest was by today's standard extremely excessive, but in the "old days" we told ourselves that it was still far preferable to hand writing the contest. To summarize the old method, first a FORTRAN program was executed which created a data file of form numbers, computation numbers, and answers. The form numbers were used to pick out one of several appropriate equations into which numbers were later inserted to make a problem on the contest page. For every number used in a computation there were three to five B's which maintained sequential order. This data file was then read by a second program called TECO which translated the data file into a long series of commands to a computer-driven typewriter. We then logged on to the computer from this typewriter and printed off the numerical problems and their answers. Since only one font print-wheel was on the typewriter, "π" had to be typed by hand later into blanks left by the typewriter. [A coach in Port Arthur once told us he used to instruct his students to stick a "π" anywhere on the test where a number was omitted. This occurred occasionally when we inadvertently failed to hand type the π!] The typewriter could underline, but it could not insert radicals for square roots or large brackets of any kind. These were also added by hand later, with the probability of an occasional "scribal error" being high.

Production of one page of number crunchers required 15 seconds of FORTRAN computing, about a minute of TECO formatting and about 2.5 minutes for the typewriter to type out the page. Then we spent about two minutes doing hand editing [inserting π's, large brackets and radicals], which including cutting away and formatting the answer key on a separate page. Invariably, we would encounter misaligned numbers in fractions which required liquid white-out and retyping. This form of revision added about an extra minute or two per page. So, on average, we needed about 8 minutes to create one page of number crunchers, not counting log-on/log-off time and the real time burden of having to time share the computers with the rest of the University. [The 15 seconds of FORTRAN computation time often took several minutes, and we remember waiting over an hour trying to log on in heavy usage periods.] In reality, a reasonable time estimate was probably 15 minutes per page, and the time compression associated with running many pages together is not great.

The numerical portion of the contest is now run on a desktop computer. We can run, format and print one page completely in less than five minutes, and the process is much accelerated when mass production occurs. For example, the total time needed to completely produce the practice sheets for this drill manual, complete with answers, was approximately three hours, or about 1 minute per page!

In general, this present test generation procedure is identical to the old fashioned method. For each number cruncher there exists three to twelve possible forms. Each form has specific operators (+,-,x,÷), parentheses and brackets, and sometimes functions (e.g., log, sin), but no numbers. The computer randomly picks a form, then randomly picks numbers to complete the equation. Usually, these numbers are "massaged" so a keyboard error by a student taking the test will always effect an incorrect answer, and occasionally π's randomly replace a number as well. The computer calculates an answer and "typesets" the equation into a format readable by a word processor. Unlike its predecessor, the word processor can be instructed to insert large brackets, π's, fractions and radicals, so the former necessity of hand editing has been for the most part eliminated. We then set the margins, spacing, font and tabs. The answers are stored in a separate word processor file which is similarly prepared for final printing.

In actuality, I no longer print out just the number crunchers. I run currently a year's worth of tests at once as I prepare the UIL and TMSCA invitational, district, regional and state meet contests. The number cruncher page is run first, but not printed. Then I type in the stated problems and compute the answers. The geometry problems are currently drafted using Microspot MacDraft software. The calculus plots are made using Microsoft Excel. As needed, the figures are modified using Adobe Photoshop. An example is adding the shading to the calculus area geography problems. The geometry problem "boxes" are added below the stated problems on the computer, and residual typing for the geometry problems is accomplished at the proper location within each box after inserting the geography graphic in jpeg notation, thus finishing up the page.

Answer keys are similarly generated. I start with the number cruncher answers which are already formatted in final form. I then add answers for stated and geometry problems using the word processor. The answer sheets are then printed in final form, and no additional hand editing is needed.

The crux of the numerical problem generation is the program written in C++ computer programming language that creates the word processor readable file. Figure 1 shows a computational flow chart for the C program. Each of the seven contest pages has a separate program since the number of problems and their forms varies from page to page. However, the general tasks seen in the flow chart do not vary.

Two special functions are defined. The first generates random numbers. The second function takes a fixed point number of any size and rounds it to three significant digits, not only in terms of display but in actual fact. This is necessary because the answers calculated using unrounded numbers often differ in the third significant digit from answers calculated using the rounded numbers. The rounding equation is straightforward. First, for a number x (positive or negative), we calculate the characteristic (c), the power of 10, as

$$c = \text{FLOOR}[\log_{10}(\text{ABS}(x))]$$

where ABS() takes the absolute value of a number and FLOOR() rounds a number down to the nearest smaller integer. Next, we scale the number to be always between 1 and 10:

$$M = (10^{-c})x.$$

Now we round the number to three significant digits. To do this, we multiply M by 100 and take the integer value of the result. This is equivalent to taking the integer value of the product of the number x and 10 raised to the (2-c) power. The program steps to do this are in essence:

$$\text{if}\{\text{ABS}[100x - \text{INT}(100x)]<0.5\}$$
$$x = 10^{c-2}\{\text{FLOOR}[x(10^{2-c})]\}$$
$$\text{else}$$
$$x = 10^{c-2}\{\text{CEIL}[x(10^{2-c})]\}$$

where CEIL() rounds a number up to the next larger integer.

The beauty of the C programming language (and its curse as well!) is that numbers and text can be read and interpreted either as numbers, characters or integers. Therefore, we can in one program line perform calculations to get an answer and then in the next program line write a line of text into which the active numbers are easily written as text. Another advantage of this broad approach to test generation is the elimination of time sharing. We have the complete, undivided attention of our desktop's computational power, and we don't have to worry about the machine getting swamped with other users, a real threat when the mainframe computers were employed in contest preparation.

We implied that C's robustness is also something of a detriment. C is happy to read a bit of text and treat it as a number. Indeed, many errors that would cause a FORTRAN program to crash run just fine in C. The unfortunate result is that debugging new programs becomes nightmarish, because the programs

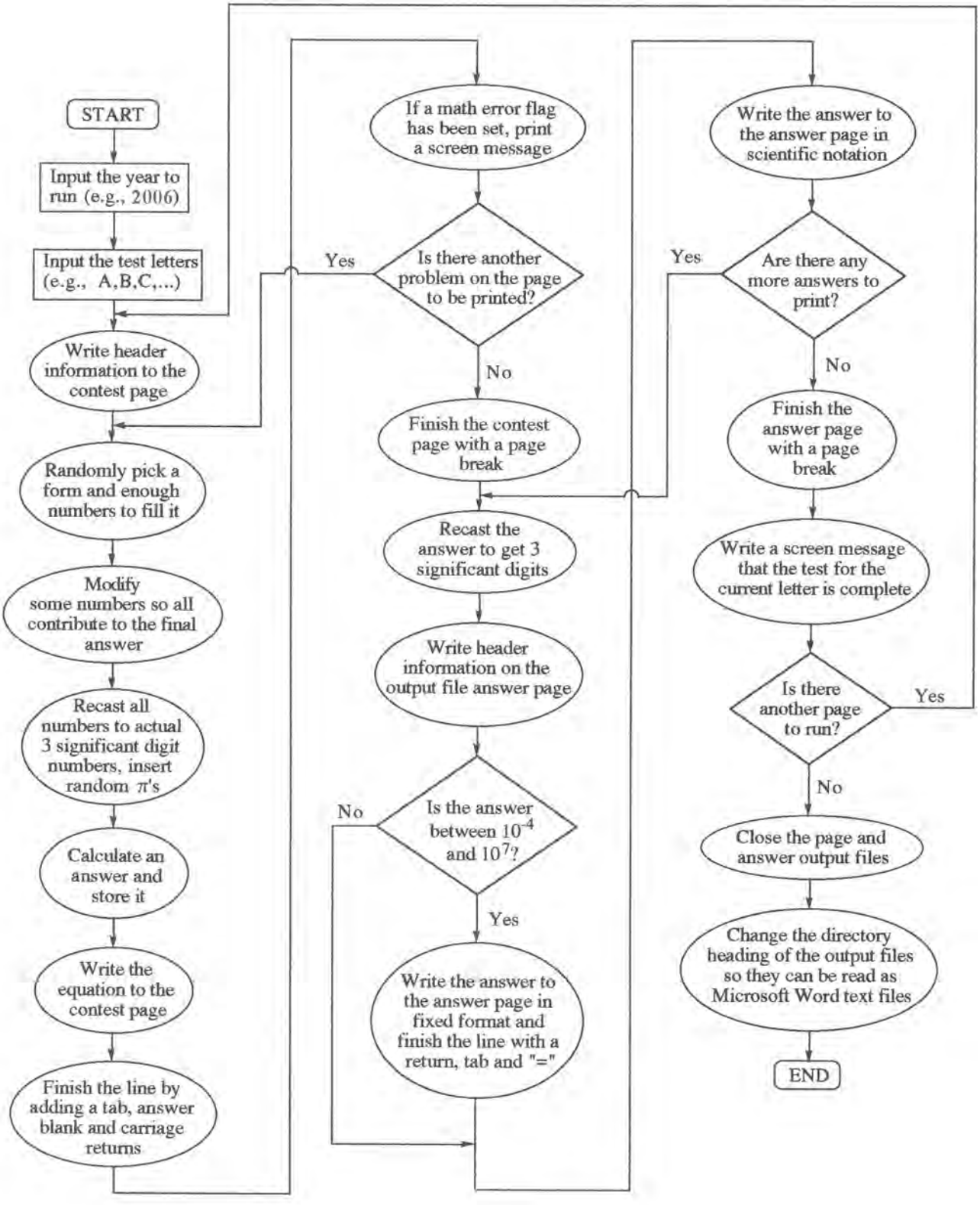

Figure 1 - Flow Chart for the C Program to Generate Numerical Problems and Answers

we wrote we thought were correct, and they ran just fine, but the output was clearly incorrect. To illustrate, one particularly difficult problem to fix was in answer calculation. We write our numbers into the selected form, but if we're not careful, the computer interprets the numbers as text; that is, it thinks a number 5 in an equation is a text "5". No problem so far. However, when we tell the computer to calculate a numerical answer for an equation containing a text-number, the computer faces a dilemma. The computer tries to comply, but it sees this text "5" (which could just as well be a letter like "g" as far as the computer is concerned) instead of a number. Well, the FORTRAN program would crash here, giving us at least a little information respecting the location and nature of the fatal error, but C simply converts the text character to its ASCII code number and proceeds with the calculation. That's nice, but the ASCII code number for the text "5" is 53, not 5! The result is an undesirable answer generated without a hint as to its origin.

With much patience in debugging, we believe that the programs are now correct. They have been used for contest generation since 2001, and we are not aware of even one problem in the numerical problem section. However, this does not mean that errors are impossible. For example, rarely a π will be substituted where it doesn't belong. To illustrate, take problem DrF-21 from this drill manual.

$$\left[\frac{\sqrt{0.747 - 0.464}}{9.65} + \frac{(0.162)}{9.94}\right]^2$$

If the number "0.464" were switched with a "π", then the square root of a negative number would ensue. Remember that π's are inserted when the numbers are recast into exact three-significant digit numbers, before the answer is calculated. We resolve the problem by instructing the computer not to place a random π in this problem when it rounds the numbers. However, there is always the increasingly remote possibility that one of our 112 forms has not been duly "π protected".

A second type of error can occur. Here, random numbers are selected and modified to generate a reasonable problem, but recasting to three significant digits fouls up the works. A rare feature is for the random number generator to select exactly the same number twice in a row, AND for these numbers to be placed in a problem format in a compromising location, such as a difference in a denominator that yields infinity as an answer. We have mitigated this problem in the following way. Fortunately, the C programming language has an error flag which is set when any type of mathematical error occurs. The computer checks this error flag after each problem is created, and if it is set, we ask the computer to write a message both to the screen and to the answer page, telling us which problem is in trouble. We fix the errant problem by changing a number by hand in the word processor text file and calculating a new answer by hand.

ORGANIZATION OF NUMERICAL PROBLEMS FOR THE CONTEST AND THIS DRILL MANUAL

The form of the numerical problems changes depending on the contest page number, although all seven pages each have five numerical problems. **Page 1** contains problems involving simple operations (+, -, x, ÷) with three to eight numbers. **Page 2** problems use these simple operators on nine to twelve numbers. Pages 3 through 7 each involve the simple operators. **Page 3** adds use of squares and square roots on problems of five or six numbers. **Page 4** involves seven to nine numbers in equations which generally contain nested fractions, square roots and squares. **Page 5** problems contain four numbers and deal with exponents, natural/base 10 logarithms and anti-logarithms, and sine and cosine trigonometric functions in degree measure. **Page 6** problems also treat exponents, natural/base 10 logarithms and anti-logarithms, as well as the inverse trigonometric functions arcsine and arctangent in radian measure. **Page 7** problems each contain between four and eight numbers. The treatment here is of general roots and powers (natural and base 10), natural and base 10 logarithms, the trigonometric functions (sine, cosine, tangent, arcsine, arctangent) in degree and radian measure and truncated series expansions. Occasionally, knowledge of a series or trigonometric identity may prove helpful in solving these problems.

The layout of the remainder of this drill manual follows the page format of the contest. Twenty-six versions of Page 1 problems come first, followed by 26 versions of Page 2 problems, etc. Each problem in this manual has a format like "DrA-12". On an actual contest, the "Dr" is replaced by the contest year, "07" for example. To conserve paper, we have placed two or more sets of five problems on each drill-manual page. This sometimes necessitated slight reduction in the spacing between problems. This may cause problems by making this drill manual a little more difficult to read than an actual contest page. Following Page 7 problems is an answer key for the entire drill manual.

Page DrA-1

DrA-1. $(4.45 - 0.777)/(5.51)$ ---------- 1=_____

DrA-2. $(-1.39 - 0.612)/(9.35) + 0.0595$ ---------- 2=_____

DrA-3. $(25.4 - 17.8 + 21.6 + 3.82)/(19.2)$ ---------- 3=_____

DrA-4. $\{(-783)(0.343 + 0.371 - 0.34)(-341)\} + 42100$ ---------- 4=_____

DrA-5. $\dfrac{(-0.0013 - 0.00105)(-0.436)}{\{(-0.0621)/(0.758)\}} - (-0.0149 - 0.00953)$ ------ 5=_____

Page DrB-1

DrB-1. $(-3.2 + 6.22) \times 1.25$ ---------- 1=_____

DrB-2. $-5.56/81.5 + 0.053 - 0.0683$ ---------- 2=_____

DrB-3. $(42.7 - 16.2 - 126 + 14.9) \times (-51.3)$ ---------- 3=_____

DrB-4. $\{(-25.8)(0.114 + 0.227 - 0.0919)(284)\} + 738$ ---------- 4=_____

DrB-5. $\dfrac{(-6.76 + 6.58 - 14.9)(\pi)}{(-4.56)(0.154)(6.2)}$ ---------- 5=_____

Page DrC-1

DrC-1. $(0.916/0.132) + 5.9$ ---------- 1=_____

DrC-2. $(2.76 + 4.89) \times (62.2) - 539$ ---------- 2=_____

DrC-3. $(60 - 57.6 + 172) \times (90.9) - 21900$ ---------- 3=_____

DrC-4. $\{(7.32)(0.785 + 0.804 - 0.636)(\pi)\} + 24.6$ ---------- 4=_____

DrC-5. $\dfrac{\{(-215 - 197 + 202)/(713)\}}{\{(260)(92.9)/(482)\}}$ ---------- 5=_____

Page DrD-1

DrD-1. $(1.51 \times 3.63) + 1.6$ ---------- 1=_____

DrD-2. $(0.111 + 0.0605 - 0.0173) \times 0.239$ ---------- 2=_____

DrD-3. $(77.3 + 120 - 65.2)/(-97.5) + 0.718$ ---------- 3=_____

DrD-4. $\{(-5.11)(0.556 + \pi - 0.279)(-4.66)\} + 11.3$ ---------- 4=_____

DrD-5. $\dfrac{85900 + 52300}{(9.77)(1.7)(3.45)} + 6790 - 766$ ---------- 5=_____

Page DrE-1

DrE-1. $-61.4 + 38.8 - 215$ ---------- 1=_____

DrE-2. $(1.94 - 1.71)/(\pi) + 0.0438$ ---------- 2=_____

DrE-3. $\dfrac{(0.946)(-0.576)(0.591)}{-0.627} + 0.165$ ---------- 3=_____

DrE-4. $\{(24.7)(0.327 + 2.57 - 1.7)(16)\} + 166$ ---------- 4=_____

DrE-5. $-2.40 \times 10^{8} + 2.01 \times 10^{8} - 3.34 \times 10^{8} + \dfrac{(-80200 + 19400)}{(0.0248)(0.0207)}$ --- 5=_____

Page DrF-1

DrF-1. $(62.1 - 60.3)/(42.3)$ ---------- 1=_____

DrF-2. $2.77/4.83 + 0.181 - 0.574$ ---------- 2=_____

DrF-3. $(-0.882 - 0.796 + 0.835 + 0.109)/(0.669)$ ---------- 3=_____

DrF-4. $\{(-996)(0.998 + 1.66 - 0.247)(785)\} + 6.31 \times 10^{5}$ --------- 4=_____

DrF-5. $\dfrac{(-83.2 + 61.9 - 79.9)(35.7)}{(41.1)(32.5)(6.91)}$ ---------- 5=_____

Page DrG-1

DrG-1. $(-1.43 + 3.5) \times 0.0266$ ---------- 1=_____

DrG-2. $(0.36 \times 0.1) - (0.0235 - 0.0801)$ ---------- 2=_____

DrG-3. $(-0.709 - 0.414 - 1.6 + 0.348) \times (-0.0361)$ ---------- 3=_____

DrG-4. $\{(-0.239)(0.769 + 4.31 - 2.31)(-0.59)\} + 0.124$ ---------- 4=_____

DrG-5. $\dfrac{\{(-37.1 - 25.5 + 62.4)/(-42.9)\}}{\{(-87.2)(40.3)/(-6.87)\}}$ ---------- 5=_____

Page DrH-1

DrH-1. $(-0.908/0.717) + 0.95$ ---------- 1=_____

DrH-2. $(44.4 + 43.7 - 26) \times 68$ ---------- 2=_____

DrH-3. $(-0.536 - 0.142 + 0.305) \times (-0.509) - 0.294$ ---------- 3=_____

DrH-4. $\{(5.19)(0.54 + 0.825 - 0.76)(0.355)\} + 0.335$ ---------- 4=_____

DrH-5. $\dfrac{63100 + 59400}{(-0.0156)(0.048)(-0.0206)} + 8.73 \times 10^{9} - 2.72 \times 10^{9}$ ------ 5=_____

Page DrI-1

DrI-1. $(32.7 \times 48.6) + 300$ ---------- 1=_____

DrI-2. $(52.7 - 22.2)/(-31.6) + 0.868$ ---------- 2=_____

DrI-3. $(-0.363 - 0.307 + 0.457 + 0.138)/(0.555)$ ---------- 3=_____

DrI-4. $\{(-72.4)(0.311 + 1.35 - 0.551)(66.1)\} + 1510$ ---------- 4=_____

DrI-5. $8580 + 1170 - 3130 + \dfrac{(-57400 + 33000)}{(5.58)(-3.44)}$ ---------- 5=_____

Page DrJ-1

DrJ-1. $-4.38 + 2.31 - 5.34$ ---------- 1=_____

DrJ-2. $\pi/1.51 + 3.06 - 4.04$ ---------- 2=_____

DrJ-3. $(-0.19 - 0.1 - 0.114 + 0.0254) \times (-0.15)$ ---------- 3=_____

DrJ-4. $\{(33.7)(0.982 + 1.39 - 1.1)(-714)\} + 8130$ ---------- 4=_____

DrJ-5. $\dfrac{(-987 + 510 - 2450)(-784)}{(-722)(635)(-482)}$ ---------- 5=_____

Page DrK-1

DrK-1. $(0.798 - 0.692)/(0.295)$ ---------- 1=_____

DrK-2. $(6.93 \times 4.32) - (5.73 - 9.51)$ ---------- 2=_____

DrK-3. $(-0.0169 - 0.00353 + 0.0191) \times (-0.16) - 2.21\times10^{-4}$ ----- 3=_____

DrK-4. $\dfrac{(0.0791)(0.0521 - 0.0392 + 0.14)}{(-0.00887)(0.0729)}$ ---------- 4=_____

DrK-5. $\dfrac{\{(-5.26 - 2.42 + 3.27)/(4.3)\}}{\{(-0.0522)(7.13)/(-6.2)\}}$ ---------- 5=_____

Page DrL-1

DrL-1. $0.0328 + 0.0101 - 0.105$ ---------- 1=_____

DrL-2. $(77.6 + 40.9 - 37) \times 40.2$ ---------- 2=_____

DrL-3. $(1.56 + 1.98 - 0.771)/(-0.434) + 4.85$ ---------- 3=_____

DrL-4. $\dfrac{(-4.51)\,(-5.29 - 2.77 + 3.66)}{(5.37)\,(\pi)}$ ---------- 4=_____

DrL-5. $\dfrac{40300 + 15100}{(0.712)(0.79)(-0.758)} + 2.30\times10^{5} - 1.18\times10^{5}$ ---------- 5=_____

Page DrM-1

DrM-1. $(-7.32 - 4.73)/(-5.56)$ ---------- 1=_____

DrM-2. $(0.86 - 0.741)/(-0.941) + 0.039$ ---------- 2=_____

DrM-3. $\dfrac{(3.29)(-7.81)(-6.29)}{-2.64} + 28.8$ ---------- 3=_____

DrM-4. $\dfrac{(\pi)\,(4.2 - 1.24 + 3.72)}{(-8.38)\,(2.54)}$ ---------- 4=_____

DrM-5. $5840 + 1960 - 13300 + \dfrac{(-34600 + 31400)}{(0.868)(-0.895)}$ ---------- 5=_____

Page DrN-1

DrN-1. $(50.3 + 51.1) \times 98.2$ ---------- 1=_____

DrN-2. $0.943/0.181 + 1.54 - 5.21$ ---------- 2=_____

DrN-3. $(\pi - 0.758 + 0.944 + 0.281)/(-9.69)$ ---------- 3=_____

DrN-4. $\dfrac{(-93.7)(-63.1 - 61 + 75.5)}{(-21.3)(-98.4)}$ ---------- 4=_____

DrN-5. $\dfrac{(-0.00289 - 0.00156)(-8.51)}{\{(9.45)/(9.67)\}} - (0.0461 - 0.00737)$ ------- 5=_____

Page DrO-1

DrO-1. $(-26.2/89.5) + 0.124$ ---------- 1=_____

DrO-2. $(-9.74 \times 7.64) - (47 - 51.5)$ ---------- 2=_____

DrO-3. $(6.75 - 4.94 - 45.3 + 0.868) \times (3.26)$ ---------- 3=_____

DrO-4. $\dfrac{(-179)(318 - 234 + 610)}{(412)(-222)}$ ---------- 4=_____

DrO-5. $\dfrac{\{(-682 - 158 + 908)/(-711)\}}{\{(862)(-977)/(829)\}}$ ---------- 5=_____

Page DrP-1

DrP-1. $(9.74 \times 8.75) + 65$ ---------- 1=_____

DrP-2. $(-8.91 + 8.61 - 2.72) \times 5.17$ ---------- 2=_____

DrP-3. $(8.48 - 3.5 + 11.1) \times (4.22) - 77.2$ ---------- 3=_____

DrP-4. $\dfrac{(0.578)(-0.733 - 0.372 + 0.433)}{(-0.962)(0.54)}$ ---------- 4=_____

DrP-5. $\dfrac{17500 + 12400}{(-4.21)(\pi)(6.91)} + 521 - 370$ ---------- 5=_____

Page DrQ-1

DrQ-1. $0.209 + 0.0423 - 0.247$ ---------- 1=_____

DrQ-2. $(-80.8 - 32.5)/(43.4) + 1.61$ ---------- 2=_____

DrQ-3. $(-9.8 + 9.86 - 5.14)/(5.39) + 0.645$ ---------- 3=_____

DrQ-4. $\dfrac{(-6.64)(2.16 - 0.601 + 1.38)}{(-3.37)(-6.98)}$ ---------- 4=_____

DrQ-5. $4.78 \times 10^{6} + 2.55 \times 10^{6} - 3.12 \times 10^{6} + \dfrac{(-11800 + 4010)}{(-0.0823)(0.0553)}$ --- 5=_____

Page DrR-1

DrR-1. $(-55.6 - 30.1)/(-68.4)$ ---------- 1=_____

DrR-2. $(-72.5 + 37.8) \times (27.8) - 1050$ ---------- 2=_____

DrR-3. $(\pi - 5.44 - 7.48 + 2.66) \times (2.12)$ ---------- 3=_____

DrR-4. $\dfrac{(0.932)(-8.35 - 7.93 + 8.71)}{(2.88)(0.644)}$ ---------- 4=_____

DrR-5. $\dfrac{(-0.00961 - 0.0084)(56)}{\{(-74.5)/(41.6)\}} - (1.13 - 0.407)$ ---------- 5=_____

Page DrS-1

DrS-1. $(6.79 + 7.71) \times 8.9$ ---------- 1=_____

DrS-2. $(-64.1 \times 90.4) - (997 - 3090)$ ---------- 2=_____

DrS-3. $(-6.34 - 2.25 + 2.41) \times (7.72) - 163$ ---------- 3=_____

DrS-4. $\dfrac{(851)(114 - 82 + 169)}{(913)(827)}$ ---------- 4=_____

DrS-5. $\dfrac{(-83.8 + 75.7 - 149)(14.8)}{(-27.1)(-66.8)(27.8)}$ ---------- 5=_____

Page DrT-1

DrT-1. $(-0.0853/0.0463) + 0.59$ ---------- 1=_____

DrT-2. $(-5.58 + 2.83 - 1.77) \times 5.64$ ---------- 2=_____

DrT-3. $(-4.61 + 4.92 - 1.18)/(8.88) + 0.0975$ ---------- 3=_____

DrT-4. $\dfrac{(-0.0392)(-0.0937 - 0.046 + 0.0479)}{(-0.0461)(-0.0411)}$ ---------- 4=_____

DrT-5. $\dfrac{84700 + 11900}{(0.0446)(-0.059)(0.014)} + 3.39 \times 10^{9} - 3.08 \times 10^{9}$ -------- 5=_____

Page DrU-1

DrU-1. $(-8.5 \times 2.77) + 15.5$ ---------- 1=_____

DrU-2. $(-4.75 - \pi)/(-1.91) + 4.25$ ---------- 2=_____

DrU-3. $\dfrac{(-2.88)(-9.87)(1.51)}{0.984} + 26.9$ ---------- 3=_____

DrU-4. $\dfrac{(0.366)(0.012 - 0.00315 + 0.00586)}{(0.164)(0.351)}$ ---------- 4=_____

DrU-5. $2.35\text{x}10^{5} + 1.72\text{x}10^{5} - 2.91\text{x}10^{5} + \dfrac{(-79000 + 53200)}{(-5.13)(0.0235)}$ ---- 5=_____

Page DrV-1

DrV-1. $3.85 + 3.85 - 7.99$ ---------- 1=_____

DrV-2. $(-0.392 + 0.234) \times (-0.347) - 0.166$ ---------- 2=_____

DrV-3. $(-1.15 - 0.343 + 0.526 + 0.208)/(\pi)$ ---------- 3=_____

DrV-4. $\dfrac{(-8.77)(9.61 - 8.97 + 79.7)}{(7.89)(-8.87)}$ ---------- 4=_____

DrV-5. $\dfrac{(-0.00733 - 0.00225)(-29.5)}{\{(-435)/(-135)\}} - (0.583 - 0.325)$ ---------- 5=_____

Page DrW-1

DrW-1. $(-38 - 16.6)/(-81.2)$ ---------- 1=_____

DrW-2. $(-0.309 \times 0.572) - (0.108 - 0.171)$ ---------- 2=_____

DrW-3. $(0.579 - 0.509 - 0.593 + 0.209) \times (6.89)$ ---------- 3=_____

DrW-4. $\dfrac{(-12)(-8.99 - 6.33 + 10.8)}{(-58.6)(-12.5)}$ ---------- 4=_____

DrW-5. $\dfrac{(-9.94 + 6.72 - \pi)(-9.94)}{(5.96)(-3.58)(-2.73)}$ ---------- 5=_____

Page DrX-1

DrX-1. $(8.56 + 11) \times 7.62$ ---------- 1=_____

DrX-2. $(-0.225 + 0.213 - 0.2) \times 0.354$ ---------- 2=_____

DrX-3. $(2.31 - 1.29 + 7.87) \times (-6.46) - 267$ ---------- 3=_____

DrX-4. $\dfrac{(0.0638)(0.0859 - 0.0408 + 0.249)}{(0.00397)(0.0637)}$ ---------- 4=_____

DrX-5. $\dfrac{61900 + 29300}{(-0.687)(-0.28)(-0.411)} + 2.69\text{x}10^{6} - 5.58\text{x}10^{5}$ -------- 5=_____

Page DrY-1

DrY-1. $(0.909 - 0.197)/(3.36)$ ---------- 1=_____

DrY-2. $-1.42/5.94 + 0.0915 - 0.239$ ---------- 2=_____

DrY-3. $(\pi + 16.7 - 6.2)/(-5.3) + 2.53$ ---------- 3=_____

DrY-4. $\dfrac{(-0.605)(-0.192 - 0.0472 + 0.0738)}{(0.665)(-0.601)}$ ---------- 4=_____

DrY-5. $-7.97\text{x}10^{5} + 7.43\text{x}10^{5} - 2.04\text{x}10^{6} + \dfrac{(-56200 + 5950)}{(-0.203)(-0.549)}$ --- 5=_____

Page DrZ-1

DrZ-1. $(-0.674 + 1.21) \times 0.0891$ ---------- 1=_____

DrZ-2. $(-0.589 + 5.9) \times (-9.72) - 80.7$ ---------- 2=_____

DrZ-3. $\frac{(5.77)(-6.15)(-6.12)}{5.75} + 31$ ---------- 3=_____

DrZ-4. $\frac{(1.53)\,(7.57 - 6.95 + 32.3)}{(\pi)\,(1.62)}$ ---------- 4=_____

DrZ-5. $\frac{(-0.00505 - 0.00323)(-6.19)}{\{(-1.25)/(-6.87)\}} - (0.398 - 0.301)$ ---------- 5=_____

Page DrA-2

DrA-11. $\dfrac{(29 + 7.8)(41.6 + 52.4)}{(-1.26)(0.604)(6740 - 26600)}$ ---------- 11=_____

DrA-12. $\dfrac{0.0622 + 0.0377}{(0.714)(2.71)(1.27\text{x}10^{-7})} + (766 + 4180)(566 - 537)$ 12=_____

DrA-13. $\dfrac{(-55.7)(856 - 745)\{1680 - (-79.7)(-19)\}}{(62.4 + 21.8)(38.4 - 45.3)}$ --------- 13=_____

DrA-14. $\dfrac{(2330 + 1930 - 1130)(0.0099 + 0.0115 - 0.00989)}{(0.017 - 0.0127)(0.45)(-0.102 - 0.0505)}$ - 14=_____

DrA-15. $\dfrac{(26300 + 4680 - 4740)(0.102 - 0.0257 - 0.0353)}{(-76)(-25.1)(-22.1)(1.4 + 0.412 + 3.97)}$ -- 15=_____

Page DrB-2

DrB-11. $\dfrac{(-4.75)(9.99) - (2.28)(-8.88) + 10.8}{-25 + (-8.83)(2.57)}$ ---------- 11=_____

DrB-12. $\dfrac{\{-19.5 + (\pi)(-9.24)(3.69)\}}{(0.352 + 1.42)(-0.00397)(1.18 + 0.874)}$ ---------- 12=_____

DrB-13. $\dfrac{(95.7)(681 - 247)\{2410 - (41.8)(52.7)\}}{(70.2 + 33.6)(-13.5 - 27.8)}$ ---------- 13=_____

DrB-14. $\dfrac{1770}{-1.11} + \dfrac{919 + 737 - 984}{0.245 - 0.444} + \dfrac{(-0.0094 + 0.0164)}{\{(4.99\text{x}10^{-6})/(-6.7)\}}$ 14=_____

DrB-15. $\dfrac{(0.395 + 0.483)}{4.49 - 7.73} + \dfrac{-0.168}{68.7 + 96.3} + \dfrac{(0.692)(561 - 299)}{(-767)(0.556)}$ 15=_____

Page DrC-2

DrC-11. $\dfrac{(760)(191) + (-435)(-437)}{-3.3 + 0.573 - (-4.53)(0.409)}$ ---------- 11=_____

DrC-12. $\dfrac{-0.0243(1.74\text{x}10^{-5} + 7.44\text{x}10^{-6})}{(139 - 311)(0.0458)} - \dfrac{6.37\text{x}10^{-8}}{-0.421 - 0.0948}$ 12=_____

DrC-13. $\dfrac{(4.72)(505 - 382)\{30 - (-3.68)(-7.56)\}}{(7.79 + 4.75)(-6.54 - 54.3)}$ ---------- 13=_____

DrC-14. $\dfrac{\{(0.71 + 6.23)(8.64 + 2.69) + 120 - 34.4\}}{(-165 - 106)(7.16 + 17.7 - 4.38)}$ ------- 14=_____

DrC-15. $\dfrac{60600 + 3.48\text{x}10^{5} - (70500 + 1.84\text{x}10^{5})(1.15 - 0.39)}{(-313)(9.42)(89.8)(386 - 1210 + 3560)}$ 15=_____

Page DrD-2

DrD-11. $\frac{(9580 + 8500)}{(0.897 - 1.47)} + \frac{(-80000 + 1.87\text{x}10^{5})}{(7.93 - 3.86)}$ ---------- 11=_____

DrD-12. $\frac{(-3.95 + 3.39 - 4.77)(1.77)(4.77)}{(6.45 - 5.98)(-9.44 - 15.4)}$ ---------- 12=_____

DrD-13. $\frac{-52400 + 17300 - 69300 + 16300 + 19400}{(-39.3)(51.3 + 38)(827 + 543)}$ ---------- 13=_____

DrD-14. $\frac{(9480 + 1980 - 651)(0.00268 + 0.00487 - 0.00438)}{(-36.8 - 5.34)(84.9)(48.6 - 27.9)}$ 14=_____

DrD-15. $\frac{23900 + 2.38\text{x}10^{5} - (11300 + 11700)(3.59 - 0.519)}{(-338)(267)(458)(959 - 1390 + 1710)}$ 15=_____

Page DrE-2

DrE-11. $\frac{(-7.69 + 6.83)(7.14 - 0.773 + 2.33)}{(3.65)(-5.7) - 23.6}$ ---------- 11=_____

DrE-12. $\frac{-548 + 351}{(0.698)(2.12)(-5.54\text{x}10^{-4})} + (992 + 1510)(612 - 517)$ 12=_____

DrE-13. $\frac{- 66300 + 10300 - 16000 + 9800 + 13200}{(6.77)(76.9 + 67)(\pi + 0.901)}$ ---------- 13=_____

DrE-14. $\frac{286 + 86.8 - 160}{(0.953)(-1.77)} - \frac{(-21400)(4.46\text{x}10^{-4} + 2.73\text{x}10^{-4})}{0.138 + 0.068 - 0.0755}$ 14=_____

DrE-15. $\frac{(36300 + 34000 - 80600)(0.662 - 0.389 - 0.458)}{(-529)(440)(18)(6.32 + 2.45 + 21.7)}$ -- 15=_____

Page DrF-2

DrF-11. $\frac{(0.466 + 0.381)(0.288 + 0.369)}{(-1.5)(0.316)(5710 - 8890)}$ ---------- 11=_____

DrF-12. $\frac{(1.92)(8.67) - (2.57 + 2.56)(5.63)}{(-4.55 + 9.69 + 9.18)(-2.19)}$ ---------- 12=_____

DrF-13. $\frac{-80100 + 70500 - 5.19\text{x}10^{5} + 68300 + 1.06\text{x}10^{5}}{(-0.606)(12.5 + 1.28)(-0.211 + 0.175)}$ ---- 13=_____

DrF-14. $\frac{\{(0.525 + 1.32)(1.32 + \pi) + 28.7 - 9.31\}}{(-897 - 848)(-8.86 + 16.5 - 5.41)}$ ---------- 14=_____

DrF-15. $\frac{(38800 + 26200 - 35900)(0.352 - 0.315 - 0.481)}{(28.8)(612)(-422)(\pi + 2.63 + 4.64)}$ -------- 15=_____

Page DrG-2

DrG-11. $\dfrac{(-0.0299)(0.015) - (0.0065)(-0.0631) + 4.59\text{x}10^{-5}}{-0.00146 + (0.0305)(-0.0297)}$ 11=_____

DrG-12. $\dfrac{\{1.14\text{x}10^{7} + (983)(-448)(-111)\}}{(0.186 + 0.544)(290)(1.91 + 1.66)}$ ---------- 12=_____

DrG-13. $\dfrac{-94000 + 66200 - 1.25\text{x}10^{5} + 65100 + 1.21\text{x}10^{5}}{(0.111)(38.1 + 8.89)(-0.73 + 0.339)}$ ---- 13=_____

DrG-14. $\dfrac{(7630 + 3750 - 3640)(0.00446 + 0.0187 - 0.0175)}{(-0.754 - 0.336)(-0.753)(-0.926 - 0.607)}$ - 14=_____

DrG-15. $\dfrac{(0.148 + 0.357)}{1.25 - 1.37} + \dfrac{-0.424}{74.6 + 85} + \dfrac{(0.942)(306 - 141)}{(-433)(0.117)}$ 15=_____

Page DrH-2

DrH-11. $\dfrac{(0.937)(0.0509) + (-0.563)(-0.179)}{-6.39 + 2.57 - (-3.5)(0.798)}$ ---------- 11=_____

DrH-12. $\dfrac{(9.95 + 8.87 - 9.48)\ (\pi)\ (6.49)}{(5.4 - 4.92)\ (-6.84 - 19.2)}$ ---------- 12=_____

DrH-13. $\dfrac{-17900 + 9460 - 10300 + 9430 + 21800}{(8.28)(63.8 + 23.2)(7.51 + 0.757)}$ ---------- 13=_____

DrH-14. $\dfrac{101 + 59.4 - 209}{(0.784)(80.2)} - \dfrac{(-442)(1.34\text{x}10^{-4} + 8.70\text{x}10^{-5})}{0.626 + 0.393 - 0.4}$ 14=_____

DrH-15. $\dfrac{60600 + 8.98\text{x}10^{5} - (44800 + 70900)(1.63 - 0.433)}{(-439)(958)(697)(551 - 877 + 967)}$ 15=_____

Page DrI-2

DrI-11. $\dfrac{(6070 + 3610)}{(0.772 - 2.38)} + \dfrac{(-1050 + 2540)}{(6.89 - \pi)}$ ---------- 11=_____

DrI-12. $\dfrac{0.0842 + 0.0569}{(0.682)(1.74)(2.99\text{x}10^{-7})} + (317 + 1400)(659 - 487)$ 12=_____

DrI-13. $\dfrac{-31700 + 11200 - 27100 + 1250 + 35100}{(-0.0455)(89.4 + 44.2)(0.0232 + 0.0148)}$ --------- 13=_____

DrI-14. $\dfrac{\{(0.34 + 0.499)\ (\pi + 2.63) + 4.18 - 1.51\}}{(-728 - 252)\ (-4.87 + 7.25 - 2.97)}$ ---------- 14=_____

DrI-15. $\dfrac{4470 + 12200 - (75600 + 2.35\text{x}10^{5})\ (\pi - 1.05)}{(-464)\ (-870)\ (257)\ (224 - 882 + 1840)}$ ---------- 15=_____

Page DrJ-2

DrJ-11. $\dfrac{(-0.0593 + 0.0318)(0.0586 - 0.042 + 0.202)}{(0.0135)(0.0617) - 1.90\times10^{-4}}$ ------ 11=_____

DrJ-12. $\dfrac{(0.289)(-6.68) - (-5.62 + 3.2)(7.35)}{(\pi + 15.7 + 2.35)(-1.72)}$ ---------- 12=_____

DrJ-13. $\dfrac{-45600 + 8140 - 10100 + 1020 + 39500}{(2.61)(25 + 15.6)(-2.87 + 0.784)}$ ---------- 13=_____

DrJ-14. $\dfrac{(5780 + 4480 - 3190)(0.00623 + 0.00754 - 0.00735)}{(8.61 - 6.43)(-3.55)(-3.38 - 2.49)}$ 14=_____

DrJ-15. $\dfrac{(0.103 + 0.194)}{1.11 - 2.81} + \dfrac{-0.0204}{78.2 + 98.1} + \dfrac{(0.912)(333 - 258)}{(-954)(0.574)}$ 15=_____

Page DrK-2

DrK-11. $\dfrac{(0.642 + 0.299)(0.16 + 0.208)}{(-1.84)(0.929)(4680 - 35600)}$ ---------- 11=_____

DrK-12. $\dfrac{\{1.33\times10^{-4} + (-0.0551)(0.0733)(-0.0495)\}}{(0.232 + 0.983)(0.0123)(1.6 + 0.982)}$ -------- 12=_____

DrK-13. $\dfrac{-59500 + 53700 - 1.78\times10^{5} + 7470 + 54200}{(0.0978)(50.6 + 38.3)(-0.0806 + 0.0652)}$ -------- 13=_____

DrK-14. $\dfrac{816 + 710 - 767}{(0.616)(-0.22)} - \dfrac{(1.08\times10^{6})(7.22\times10^{-4} + 4.96\times10^{-4})}{0.214 + 0.163 - 0.994}$ 14=_____

DrK-15. $\dfrac{42200 + 3.02\times10^{5} - (47300 + 78700)(1.56 - 0.907)}{(-514)(-52.4)(-62.3)(470 - 1960 + 3720)}$ 15=_____

Page DrL-2

DrL-11. $\dfrac{(-1.23 + 0.485)(-2.65 - 2.55 + 2.9)}{(-3.58)(\pi) - 61.1}$ ---------- 11=_____

DrL-12. $\dfrac{3.85(9.26\times10^{-5} + 2.42\times10^{-5})}{(919 - 2110)(5.81)} - \dfrac{1.12\times10^{-8}}{-0.201 - 0.0203}$ -- 12=_____

DrL-13. $\dfrac{-73300 + 53400 - 76900 + 8180 + 60800}{(-0.305)(76.3 + 67.6)(0.675 + 0.3)}$ ---------- 13=_____

DrL-14. $\dfrac{(15.4 + 14.9)(2.39 + 16.9)(61.8 - 155)}{(\pi + 3.91)(-0.89)\{(0.547)/(0.784)\}}$ ---------- 14=_____

DrL-15. $\dfrac{1.20\times10^{5} + 2.45\times10^{5} - (78200 + 2.68\times10^{5})(\pi - 0.407)}{(-539)(-0.352)(0.936)(143 - 24.7 + 247)}$ 15=_____

Page DrM-2

DrM-11. $\dfrac{(-0.887 + 0.289)(-0.691 + \pi)}{(-3.2)(0.634)(2470 - 8600)}$ ---------- 11=_____

DrM-12. $\dfrac{232 + 165}{(0.666)(1.48)(5.77\text{x}10^{-4})} + (543 + 776)(706 - 447)$ 12=_____

DrM-13. $\dfrac{-87200 + 48200 - 2.57\text{x}10^{5} + 8060 + 63100}{(4.12)(11.9 + 1.4)(1.55 + 1.53)}$ -------- 13=_____

DrM-14. $\dfrac{(3930 + 623 - 282)(0.00801 + 0.0156 - 0.00175)}{(4.75 - 0.701)(0.439)(2.51 - \pi)}$ -------- 14=_____

DrM-15. $\dfrac{(56400 + 36700 - 1.93\text{x}10^{5})(0.881 - 0.317 - 1.65)}{(-0.671)(-1.79)(4.96)(7.16 + 4.11 + 31.4)}$ 15=_____

Page DrN-2

DrN-11. $\dfrac{(0.0348)(-0.0238) - (-0.0108)(0.053) + 5.36\text{x}10^{-4}}{4.96\text{x}10^{-4} + (0.0367)(0.0126)}$ 11=_____

DrN-12. $\dfrac{(-17.2)(\pi) - (6.19 + 0.879)(9.07)}{(-1.27 + 2.9 + 0.733)(-1.24)}$ ---------- 12=_____

DrN-13. $\dfrac{\{(-0.111 + 0.0418)(58.1 + 320) + (-40.1)\}(-871)}{(-369)(583 + 1130)(-604)}$ - 13=_____

DrN-14. $\dfrac{631 + 160 - 240}{(0.448)(75.8)} - \dfrac{(-15900)(4.10\text{x}10^{-4} + 2.97\text{x}10^{-4})}{0.702 + 0.628 - 2.57}$ 14=_____

DrN-15. $\dfrac{(59000 + 23000 - 46100)(0.571 - 0.382 - 0.426)}{(4.91)(-0.0626)(0.56)(3.89 + 0.571 + 0.979)}$ -- 15=_____

Page DrO-2

DrO-11. $\dfrac{(-4.17)(-4.58) + (4.58)(9.82)}{-4.17 + 1.39 - (-9.26)(0.443)}$ ---------- 11=_____

DrO-12. $\dfrac{\{-1280 + (-8.57)(-8.52)(-87.8)\}}{(0.279 + 2.12)(-4.46)(1.37 + 0.494)}$ ---------- 12=_____

DrO-13. $\dfrac{\{(-0.249 + 0.0504)(97.4 + 498) + (-221)\}(-1.55)}{(-2.91)(4.45 + 5.75)(5.67)}$ - 13=_____

DrO-14. $\dfrac{(86.9 + 30.2)(8.8 + 27.6)(30.6 - 70)}{(0.218 + 0.207)(0.309)\{(0.643)/(-0.697)\}}$ -------- 14=_____

DrO-15. $\dfrac{(1.43 + 11)}{6.87 - 9.44} + \dfrac{-0.729}{84.1 + 87.5} + \dfrac{(0.261)(978 - 688)}{(-620)(0.135)}$ 15=_____

Page DrP-2

DrP-11. $\frac{(1140 + 624)}{(0.418 - 0.651)} + \frac{(-11700 + 15500)}{(3.65 - 1.9)}$ ---------- 11=_____

DrP-12. $\frac{-0.225(9.60\text{x}10^{-5} + 4.67\text{x}10^{-5})}{(966 - 2920)(0.414)} - \frac{1.59\text{x}10^{-8}}{-0.304 - 0.227}$ - 12=_____

DrP-13. $\frac{\{(-0.388 + 0.36)(46.7 + 223) + (-18.2)\}(562)}{(-214)(307 + 2360)(-261)}$ ---- 13=_____

DrP-14. $\frac{(2070 + 917 - 177)(0.00978 + 0.0483 - 0.00726)}{(0.901 - 0.404)(4.42)(8.39 - 7.54)}$ -- 14=_____

DrP-15. $\frac{38200 + 77700 - (21600 + 25400)(2.58 - 1.31)}{(-640)(3.39)(-8.25)(635 - 209 + 1080)}$ ---- 15=_____

Page DrQ-2

DrQ-11. $\frac{(53.6 + 50.6)(-393 - 263 + 349)}{(-588)(680) - 5.78\text{x}10^{5}}$ ---------- 11=_____

DrQ-12. $\frac{(-0.378 + 0.281 - 0.366)(0.93)(-0.964)}{(5.29 - 3.44)(-0.597 - 2.58)}$ ---------- 12=_____

DrQ-13. $\frac{\{(-0.527 + 0.396)(86 + 384) + (-200)\}(-72.1)}{(-13.6)(16.9 + 43.7)(91)}$ ---- 13=_____

DrQ-14. $\frac{446 + 239 - 588}{(0.279)(-0.264)} - \frac{(-1.17\text{x}10^{5})(9.98\text{x}10^{-4} + 7.62\text{x}10^{-4})}{0.289 + 0.0375 - 0.115}$ 14=_____

DrQ-15. $\frac{98000 + 2.90\text{x}10^{5} - (52500 + 97000)(1.44 - 0.451)}{(-665)(5.12)(7.35)(308 - 1470 + 2200)}$ 15=_____

Page DrR-2

DrR-11. $\frac{(-71.1 + 62.1)(-81.9 + 387)}{(-5.32)(0.347)(1440 - 2120)}$ ---------- 11=_____

DrR-12. $\frac{(26.2)(26.4) - (-19.9 + 12.2)(-92.1)}{(-96.3 + 229 + 81.2)(-7.7)}$ ---------- 12=_____

DrR-13. $\frac{\{(-0.665 + 0.383)(35.3 + 148) + (-269)\}(-0.412)}{(-5.87)(3.15 + 4.89)(8.13)}$ - 13=_____

DrR-14. $\frac{(68.4 + 43.2)(6.21 + 12.5)(89.5 - 188)}{(-16.7 + 5.82)(70.8)\{(-76.9)/(52.7)\}}$ ---------- 14=_____

DrR-15. $\frac{(69000 + 17100 - 20500)(0.231 - 0.0243 - 0.203)}{(7.21)(6.84)(2.95)(8.81 + 2.12 + 3.57)}$ - 15=_____

Page DrS-2

DrS-11. $\dfrac{(5.24)(9.13) - (1.67)(7.88) + 25}{29.4 + (-4.45)(-4.28)}$ ---------- 11=_____

DrS-12. $\dfrac{\{-0.161 + (0.38)(-0.904)(0.738)\}}{(0.326 + 0.351)(-0.212)(1.2 + 0.125)}$ ---------- 12=_____

DrS-13. $\dfrac{\{(-0.804 + 0.322)(74.6 + 296) + (-182)\}(713)}{(18.7)(-106 + 118)(-747)}$ ---- 13=_____

DrS-14. $\dfrac{-6000}{-2.95} + \dfrac{726 + 605 - 2360}{0.749 - 1.22} + \dfrac{(-0.00376 + 0.02)}{\{(-6.41\text{x}10^{-6})/(-3.98)\}}$ 14=_____

DrS-15. $\dfrac{(71500 + 63400 - 2.62\text{x}10^{5})(0.821 - 0.34 - 0.412)}{(-7.21)(8.57)(-1.45)(5.53 + 3.95 + 27.3)}$ 15=_____

Page DrT-2

DrT-11. $\dfrac{(-24.1)(13.9) + (33)(-76)}{-7.97 + 6.51 - (-8.22)(0.832)}$ ---------- 11=_____

DrT-12. $\dfrac{-83.5(9.95\text{x}10^{-5} + 7.08\text{x}10^{-5})}{(112 - 499)(24.6)} - \dfrac{2.02\text{x}10^{-8}}{0.406 - 0.199}$ --- 12=_____

DrT-13. $\dfrac{\{(-0.943 + 0.213)(23.9 + 89.9) + (-96.1)\}(-5.71)}{(0.962)(-2.44 + 9.45)(4.24)}$ 13=_____

DrT-14. $\dfrac{260 + 214 - 1440}{(0.111)(7.14)} - \dfrac{(-4.34\text{x}10^{5})(6.87\text{x}10^{-4} + 5.50\text{x}10^{-4})}{0.777 + 0.205 - 0.503}$ 14=_____

DrT-15. $\dfrac{61700 + 1.33\text{x}10^{5} - (55100 + 1.08\text{x}10^{5})(1.38 - 0.871)}{(-740)(-0.97)(-0.585)(226 - 109 + 379)}$ 15=_____

Page DrU-2

DrU-11. $\dfrac{(6630 + 1690)}{(0.293 - 0.828)} + \dfrac{(-1730 + 2320)}{(2.62 - 2.38)}$ ---------- 11=_____

DrU-12. $\dfrac{(-9.88 + 7.69 - 7.74)(5.46)(-7.92)}{(4.24 - 2.69)(-3.37 - 3.84)}$ ---------- 12=_____

DrU-13. $\dfrac{\{(-0.181 + 0.172)(63.2 + 226) + (-3.46)\}(146)}{(174)(-382 + 741)(-405)}$ --- 13=_____

DrU-14. $\dfrac{(49.9 + 45.6)(3.62 + 5.36)(58.3 - 113)}{(-0.552 + 0.359)(-0.894)\{(-0.18)/(-0.248)\}}$ ------ 14=_____

DrU-15. $\dfrac{(76600 + 28000 - 32600)\,(0.201 - 0.0265 - 0.0609)}{(0.395)\,(-0.797)\,(0.974)\,(7.99 + \pi + 40.8)}$ ------ 15=_____

Page DrV-2

DrV-11. $\dfrac{(2.3 + 1.36)(-5.21 - 1.96 + 3.13)}{(-8.19)(-1.33) - 67.9}$ ---------- 11=_____

DrV-12. $\dfrac{0.086 + 0.0483}{(0.405)(2.19)(1.04\text{x}10^{-7})} + (375 + 2020)(586 - 365)$ 12=_____

DrV-13. $\dfrac{\{(-0.32 + 0.248)(12.5 + 42.6) + (-6.23)\}(0.863)}{(0.251)(-0.52 + 0.673)(0.767)}$ - 13=_____

DrV-14. $\dfrac{2300}{-68.1} + \dfrac{109 + 62.7 - 145}{0.15 - 0.741} + \dfrac{(-0.0512 + 0.226)}{\{(-0.111)/(82.7)\}}$ -- 14=_____

DrV-15. $\dfrac{(79100 + 8310 - 31000)(0.791 - 0.349 - 1.45)}{(0.952)(-0.625)(0.534)(4.72 + 1.58 + 2.62)}$ ---- 15=_____

Page DrW-2

DrW-11. $\dfrac{(-53.5 + 27.9)\,(-94.7 + 476)}{(\pi)\,(0.959)\,(9400 - 57000)}$ ---------- 11=_____

DrW-12. $\dfrac{(-0.588)\,(8.46) - (2.77 + 1.47)\,(\pi)}{(-5.08 + 28.9 + 27)\,(-0.179)}$ ---------- 12=_____

DrW-13. $\dfrac{\{(-0.459 + 0.275)\,(51.8 + 168) + (-77.3)\}\,(-0.42)}{(0.329)\,(-0.657 + \pi)\,(-0.0622)}$ -------- 13=_____

DrW-14. $\dfrac{975 + 198 - 252}{(0.843)\,(\pi)} - \dfrac{(-21200)(3.75\text{x}10^{-4} + 3.14\text{x}10^{-4})}{0.365 + 0.145 - 0.297}$ 14=_____

DrW-15. $\dfrac{(0.379 + 0.509)}{3.49 - 6.45} + \dfrac{-0.0904}{93.6 + 645} + \dfrac{(0.481)(750 - 710)}{(-807)(0.153)}$ 15=_____

Page DrX2

DrX-11. $\dfrac{(700)(64.4) - (-35.9)(-954) + 18000}{-2.02\text{x}10^{6} + (742)(-982)}$ ---------- 11=_____

DrX-12. $\dfrac{0.0555(1.29\text{x}10^{-5} + 1.21\text{x}10^{-5})}{(159 - 1320)(0.00787)} - \dfrac{-8.68\text{x}10^{-8}}{0.509 - 0.12}$ --- 12=_____

DrX-13. $\dfrac{\{(-0.597 + 0.254)(91.2 + 283) + (-315)\}(0.0297)}{(0.0406)(-0.0795 + 0.206)(-0.0891)}$ - 13=_____

DrX-14. $\dfrac{(31.3 + 9.34)\,(\pi + 1.2)\,(27.1 - 49.1)}{(-93.8 + 89.1)\,(-49.5)\,\{(40.8)\,/\,(97.6)\}}$ ---------- 14=_____

DrX-15. $\dfrac{7.97\text{x}10^{5} + 1.96\text{x}10^{6} - (88500 + 5.19\text{x}10^{5})(6.28 - 4.72)}{(-841)(-0.0279)(-0.0346)(718 - 451 + 1190)}$ 15=_____

Page DrY-2

DrY-11. $\frac{(-6.45 + 2.46)(20.2 + 36.4)}{(-1.36)(0.664)(7190 - 22400)}$ ---------- 11=_____

DrY-12. $\frac{(\pi + 3.27 - 10.3)\,(1.62)\,(-6.2)}{(3.19 - 1.97)\,(-0.76 - 1.22)}$ ---------- 12=_____

DrY-13. $\frac{7.36\text{x}10^{5} + 2.95\text{x}10^{6}}{(-1.21)(-0.494) + 0.761} + \frac{4050 - 1360 + 4640}{(6.19\text{x}10^{-4})(2.8)}$ --- 13=_____

DrY-14. $\frac{-799}{0.934} + \frac{392 + 124 - 203}{0.451 - 0.653} + \frac{(-6.47\text{x}10^{-4} + 0.00245)}{\{(-2.89\text{x}10^{-8})/(0.051)\}}$ 14=_____

DrY-15. $\frac{55700 + 2.88\text{x}10^{5} - (29400 + 38600)(2.14 - 1.19)}{(-866)(-0.0107)(-0.0787)(391 - 2110 + 2480)}$ - 15=_____

Page DrZ-2

DrZ-11. $\frac{(-8.29)(5.25) - (81.7)(-0.508) + 7.33}{0.163 + (-3.83)(-0.0412)}$ ---------- 11=_____

DrZ-12. $\frac{250 + 149}{(0.389)(1.79)(1.34\text{x}10^{-4})} + (600 + 913)(632 - 328)$ 12=_____

DrZ-13. $\frac{8.75\text{x}10^{5} + 8.98\text{x}10^{5}}{(-0.16)(-0.75) + 0.131} + \frac{7980 - 2800 + 15600}{(-0.0481)(-0.0548)}$ --- 13=_____

DrZ-14. $\frac{\{(0.79 + 1.62)(1.89 + 0.0087) + 4.75 - 4.16\}}{(-675 - 574)(-2.3 + 4.32 - 2.46)}$ ---- 14=_____

DrZ-15. $\frac{(89100 + 76900 - 1.28\text{x}10^{5})(0.451 - 0.35 - 0.967)}{(-0.0817)(0.0066)(0.0773)(9.64 + 4.12 + 6.75)}$ 15=_____

Page DrA-3

DrA-21. $\left[\frac{\sqrt{1.5 - 0.648}}{7.07} + \frac{(0.454)}{4.45}\right]^2$ ---------- 21=_____

DrA-22. $\frac{1}{-6.83 + 8.33} + \frac{1}{0.588 - 1.22} + \frac{1}{(0.756)}$ ---------- 22=_____

DrA-23. $\frac{\sqrt{0.0536 + 0.0526 + (6.83\text{x}10^{-4})/(0.0346)}}{0.0177 + 0.004}$ ---------- 23=_____

DrA-24. $(166)(0.0331) + \sqrt{(12.3)/(2.78)} + [(0.173)(9.11)]^2$ ----- 24=_____

DrA-25. $(-89.2)(-0.00656)\sqrt{(-0.488)^2/0.174} + 1/\sqrt{0.589 + 0.703}$ --- 25=_____

Page DrB-3

DrB-21. $\frac{0.278 + 1/(0.965)}{1/(\pi) + 2.45} + \frac{1}{(0.381)}$ ---------- 21=_____

DrB-22. $\left[\frac{(0.849)(0.776)}{-7.58} + 0.0356\right]^2 + \sqrt{1.13\text{x}10^{-6}}$ ---------- 22=_____

DrB-23. $(-0.0145)(-750) + \sqrt{(4.71)/(1.74)} + [(0.208)(8.4)]^2$ ----- 23=_____

DrB-24. $[-34.9 + \sqrt{506}]^2 \text{ x } [898 + 2220]^2 \text{ x } \sqrt{1.48/7.27}$ -------- 24=_____

DrB-25. $(8.75)(0.0796)\sqrt{(-0.219)^2/0.384} + 1/\sqrt{8.15 + 40.6}$ ------- 25=_____

Page DrC-3

DrC-21. $\sqrt{\frac{(\pi)\ (3.27)}{327 + 325}} + 0.0712$ ---------- 21=_____

DrC-22. $\frac{0.0752 + 1/(\pi)}{1/(0.301) + 7.73} + \frac{1}{(40.7)}$ ---------- 22=_____

DrC-23. $(0.00154)(982) + \sqrt{(6.28)/(7.66)} + [(0.56)(1.91)]^2$ ----- 23=_____

DrC-24. $[-60.7 + \sqrt{1740}]^2 \text{ x } [882 + 1590]^2 \text{ x } \sqrt{2.27/5.35}$ ------- 24=_____

DrC-25. $\frac{\sqrt{954 + 222 + (2.47\text{x}10^5)/(834)}}{-242 + 39}$ ---------- 25=_____

Page DrD-3

DrD-21. $\frac{1}{5.57 + 8.3} + \frac{1}{3.56 - 16.5} + \frac{1}{(9.83)}$ ---------- 21=_____

DrD-22. $\left[\frac{(0.659)(0.215)}{9.46} + 0.0103\right]^2 + \sqrt{1.82\text{x}10^{-7}}$ ---------- 22=_____

DrD-23. $[-54.1 + \sqrt{1990}]^2 \text{ x } [399 + 1170]^2 \text{ x } \sqrt{0.101/0.167}$ ----- 23=_____

DrD-24. $(1.49)(0.279)\sqrt{(-0.515)^2/0.694} + 1/\sqrt{8.29 + 28.6}$ -------- 24=_____

DrD-25. $\left[\frac{\pi + 1.27 + \sqrt{0.985 / 0.427}}{0.329 + 0.0339}\right]^2$ ---------- 25=_____

Page DrE-3

DrE-21. $\left[\frac{(0.479)(0.583)}{-3.16} + 0.0826\right]^2 + \sqrt{2.24\text{x}10^{-10}}$ ---------- 21=_____

DrE-22. $\frac{1}{-4.67 + 9.98} + \frac{1}{0.566 - 0.821} + \frac{1}{(4.24)}$ ---------- 22=_____

DrE-23. $(-99.4)(-0.00171)\sqrt{(-0.817)^2/0.433} + 1/\sqrt{3.51 + 19}$ ------ 23=_____

DrE-24. $\left[\frac{4.17 + 0.619 + \sqrt{0.832/0.372}}{-0.38 + 0.321}\right]^2$ ---------- 24=_____

DrE-25. $\frac{\sqrt{8.56 + \pi + (99) / (9)}}{- 5.44 + 4.49}$ ---------- 25=_____

Page DrF-3

DrF-21. $\left[\frac{\sqrt{0.747 - 0.464}}{9.65} + \frac{(0.162)}{9.94}\right]^2$ ---------- 21=_____

DrF-22. $\sqrt{\frac{(8.26)(9.6)}{487 + 335}} + 0.187$ ---------- 22=_____

DrF-23. $\left[\frac{12.7 + 2.23 + \sqrt{0.841/0.393}}{381 + 52.9}\right]^2$ ---------- 23=_____

DrF-24. $(1.63)(4.67) + \sqrt{(10.1)/(1.97)} + [(0.176)(8.6)]^2$ ------- 24=_____

DrF-25. $[-79.6 + \sqrt{4120}]^2 \text{ x } [986 + 1000]^2 \text{ x } \sqrt{6.47 / \pi}$ --------- 25=_____

Page DrG-3

DrG-21. $\dfrac{-0.122 + 1/(-7.52)}{1/(0.348) + \pi} + \dfrac{1}{(-12.9)}$ ---------- 21=_____

DrG-22. $\sqrt{\dfrac{(7.79)(2.15)}{506 + 186}} + 0.0872$ ---------- 22=_____

DrG-23. $(-0.0177)(-9.7) + \sqrt{(0.1)/(8.68)} + [(0.305)(1.22)]^2$ ----- 23=_____

DrG-24. $\dfrac{\sqrt{4.68 + 1.14 + (10.8)/(5.9)}}{\pi + 5.16}$ ---------- 24=_____

DrG-25. $\left[\dfrac{1.57 + 1.54 + \sqrt{0.484/0.366}}{0.423 + 0.351}\right]^2$ ---------- 25=_____

Page DrH-3

DrH-21. $\sqrt{\dfrac{(7.81)(5.22)}{875 + 615}} + 0.136$ ---------- 21=_____

DrH-22. $\left[\dfrac{\sqrt{2.61 - 1.94}}{8.84} + \dfrac{(0.172)}{3.62}\right]^2$ ---------- 22=_____

DrH-23. $(0.42)(1.36)\sqrt{(-0.383)^2/0.444} + 1/\sqrt{6.39 + 61.2}$ --------- 23=_____

DrH-24. $[-18.7 + \sqrt{297}]^2 \times [348 + 467]^2 \times \sqrt{1.47/9.75}$ --------- 24=_____

DrH-25. $(97.3)(0.613) + \sqrt{(4180)/(3.65)} + [(0.85)(7.3)]^2$ ------- 25=_____

Page DrI-3

DrI-21. $\dfrac{1}{-2.92 + 16} + \dfrac{1}{10.5 - 12.7} + \dfrac{1}{(5.99)}$ ---------- 21=_____

DrI-22. $\left[\dfrac{\sqrt{2.76 - 1.19}}{-3.62} + \dfrac{(-0.311)}{1.89}\right]^2$ ---------- 22=_____

DrI-23. $[-37.5 + \sqrt{1080}]^2 \times [154 + 167]^2 \times \sqrt{10.2/57.1}$ -------- 23=_____

DrI-24. $(0.0899)(445) + \sqrt{(107)/(4.87)} + [(0.571)(4.56)]^2$ ------ 24=_____

DrI-25. $\left[\dfrac{0.454 + 0.208 + \sqrt{0.15/0.925}}{-815 + 582}\right]^2$ ---------- 25=_____

Page DrJ-3

DrJ-21. $\left[\frac{(0.229)(0.771)}{2.33} + 0.0338\right]^2 + \sqrt{1.06\text{x}10^{-4}}$ ---------- 21=_____

DrJ-22. $\frac{1}{0.186 + 0.432} + \frac{1}{0.348 - 1.12} + \frac{1}{(0.601)}$ ---------- 22=_____

DrJ-23. $\left[\frac{7.99 + 7.75 + \sqrt{0.825/0.495}}{-6.57 + 6.37}\right]^2$ ---------- 23=_____

DrJ-24. $[-11.4 + \sqrt{81.6}]^2 \text{ x } [396 + 466]^2 \text{ x } \sqrt{750/574}$ ---------- 24=_____

DrJ-25. $(2.83)(0.108)\sqrt{(-0.375)^2/0.656} + 1/\sqrt{17.9 + 18.5}$ -------- 25=_____

Page DrK-3

DrK-21. $\left[\frac{\sqrt{2.7 - 2.18}}{-7.77} + \frac{(-0.3)}{4.58}\right]^2$ ---------- 21=_____

DrK-22. $\frac{0.0165 + 1/(7.63)}{1/(\pi) + 1.57} + \frac{1}{(6.52)}$ ---------- 22=_____

DrK-23. $(-1040)(-0.0923) + \sqrt{(38700)/(9.71)} + [(0.95)(9.52)]^2$ --- 23=_____

DrK-24. $\frac{\sqrt{6.24 + 5.71 + (20.8)/(2.69)}}{-0.382 + 0.131}$ ---------- 24=_____

DrK-25. $\left[\frac{7.69 + 6.42 + \sqrt{0.717/0.585}}{32.7 + 19.6}\right]^2$ ---------- 25=_____

Page DrL-3

DrL-21. $\frac{0.168 + 1/(3.99)}{1/(0.198) + 8.52} + \frac{1}{(31.5)}$ ---------- 21=_____

DrL-22. $\left[\frac{(0.378)(0.344)}{-0.154} + 0.511\right]^2 + \sqrt{0.00733}$ ---------- 22=_____

DrL-23. $\left[\frac{2.39 + 0.878 + \sqrt{0.546/0.436}}{-0.139 + 0.0636}\right]^2$ ---------- 23=_____

DrL-24. $[-85.9 + \sqrt{2070}]^2 \text{ x } [903 + 955]^2 \text{ x } \sqrt{0.0163/0.0474}$ ----- 24=_____

DrL-25. $(-0.0578)(-14.9)\sqrt{(-0.52)^2/0.541} + 1/\sqrt{0.94 + 4.98}$ ------ 25=_____

Page DrM-3

DrM-21. $\left[\frac{\sqrt{1.32 - 1.16}}{1.26} + \frac{(0.168)}{1.62}\right]^2$ ---------- 21=_____

DrM-22. $\left[\frac{(0.23)\,(0.961)}{\pi} + 0.0133\right]^2 + \sqrt{6.72\text{x}10^{-6}}$ ---------- 22=_____

DrM-23. $[-42.1 + \sqrt{1180}]^2 \text{ x } [138 + 1130]^2 \text{ x } \sqrt{93.5/49.5}$ ------- 23=_____

DrM-24. $(0.0129)(502) + \sqrt{(10.9)/(1.41)} + [(0.77)(2.28)]^2$ ------ 24=_____

DrM-25. $\left[\frac{4.19 + 1.3 + \sqrt{0.383/0.244}}{-5.31 + 2.56}\right]^2$ ---------- 25=_____

Page DrN-3

DrN-21. $\frac{0.0244 + 1/(8.59)}{1/(0.417) + 5.28} + \frac{1}{(32.4)}$ ---------- 21=_____

DrN-22. $\left[\frac{(0.283)(0.643)}{6.75} + 0.00695\right]^2 + \sqrt{8.48\text{x}10^{-7}}$ ---------- 22=_____

DrN-23. $\frac{\sqrt{0.0189 + 0.0163 + (2.46\text{x}10^{-5})/(8.64\text{x}10^{-4})}}{0.0306 + 0.0275}$ ---------- 23=_____

DrN-24. $\left[\frac{12.1 + \pi + \sqrt{0.447 / 0.28}}{11.2 + 6.97}\right]^2$ ---------- 24=_____

DrN-25. $[-49.9 + \sqrt{538}]^2 \text{ x } [524 + 787]^2 \text{ x } \sqrt{17.8/71.2}$ --------- 25=_____

Page DrO-3

DrO-21. $\sqrt{\frac{(5.72)(9.11)}{383 + 251}} + 0.246$ ---------- 21=_____

DrO-22. $\frac{1}{2.56 + 3.87} + \frac{1}{3.31 - 3.48} + \frac{1}{(\pi)}$ ---------- 22=_____

DrO-23. $(-2590)(-0.0904) + \sqrt{(1770)/(6.94)} + [(0.883)\,(\pi)]^2$ -------- 23=_____

DrO-24. $(2.21)(0.19)\sqrt{(-0.419)^2/0.114} + 1/\sqrt{3.66 + 7.17}$ --------- 24=_____

DrO-25. $\frac{\sqrt{8.7 + 6.99 + (28.5)/(6.31)}}{0.249 + 0.0918}$ ---------- 25=_____

Page DrP-3

DrP-21. $\frac{1}{-6.8 + 31} + \frac{1}{7.58 - 9.77} + \frac{1}{(15.8)}$ ---------- 21=_____

DrP-22. $\sqrt{\frac{(7.7)(4.86)}{680 + 134}} + 0.0368$ ---------- 22=_____

DrP-23. $(-0.00415)(-864) + \sqrt{(13.6)/(6.49)} + [(0.18)(8.66)]^2$ ---- 23=_____

DrP-24. $[-25.9 + \sqrt{422}]^2 \times [613 + 1100]^2 \times \sqrt{0.454/0.473}$ ------ 24=_____

DrP-25. $(-8.37)(-0.0935)\sqrt{(-0.183)^2/0.81} + 1/\sqrt{12.2 + 36.2}$ ------ 25=_____

Page DrQ-3

DrQ-21. $\left[\frac{(0.42)(0.133)}{-5.99} + 0.00448\right]^2 + \sqrt{1.31 \times 10^{-10}}$ ---------- 21=_____

DrQ-22. $\left[\frac{\sqrt{1.32 - 0.782}}{-3.29} + \frac{(-0.231)}{8.06}\right]^2$ ---------- 22=_____

DrQ-23. $[-46.8 + \sqrt{1230}]^2 \times [122 + 541]^2 \times \sqrt{0.0275/0.418}$ ----- 23=_____

DrQ-24. $(1730)(0.0559) + \sqrt{(9940)/(6.96)} + [(0.969)(\pi)]^2$ ---------- 24=_____

DrQ-25. $(0.995)(0.619)\sqrt{(-0.462)^2/0.432} + 1/\sqrt{1.34 + 1.71}$ ------- 25=_____

Page DrR-3

DrR-21. $\left[\frac{\sqrt{0.571 - 0.097}}{3.84} + \frac{(0.947)}{7.11}\right]^2$ ---------- 21=_____

DrR-22. $\sqrt{\frac{(0.248)(2.72)}{459 + 307}} + 0.0213$ ---------- 22=_____

DrR-23. $[-76 + \sqrt{4580}]^2 \times [700 + 735]^2 \times \sqrt{89.9/6.88}$ ---------- 23=_____

DrR-24. $\left[\frac{1.98 + 1.55 + \sqrt{0.835/0.794}}{6.27 + 0.81}\right]^2$ ---------- 24=_____

DrR-25. $(0.141)(8.38) + \sqrt{(1.21)/(9.55)} + [(0.194)(3.32)]^2$ ----- 25=_____

Page DrS-3

DrS-21. $\dfrac{8.22 + 1/(0.105)}{1/(48.7) + 0.202} + \dfrac{1}{(0.00133)}$ ---------- 21=_____

DrS-22. $\dfrac{1}{7.2 + 7.64} + \dfrac{1}{11 - 78.5} + \dfrac{1}{(\pi)}$ ---------- 22=_____

DrS-23. $\left[\dfrac{1.52 + 1.46 + \sqrt{0.564/0.276}}{509 + 414}\right]^2$ ---------- 23=_____

DrS-24. $\dfrac{\sqrt{9.35 + 4.3 + (0.759)/(0.135)}}{\pi + 2.39}$ ---------- 24=_____

DrS-25. $(\pi)(-0.266) + \sqrt{(0.13)/(1.22)} + [(0.577)(1.36)]^2$ ------- 25=_____

Page DrT-3

DrT-21. $\sqrt{\dfrac{(3.96)(2.41)}{931 + 338}} + 0.0319$ ---------- 21=_____

DrT-22. $\dfrac{1}{-5.36 + 5.96} + \dfrac{1}{0.456 - 0.633} + \dfrac{1}{(0.359)}$ ---------- 22=_____

DrT-23. $(-7.27)(-8.17) + \sqrt{(4700)/(7.51)} + [(0.825)(7.97)]^2$ ----- 23=_____

DrT-24. $[-56.7 + \sqrt{1300}]^2 \times [946 + 4460]^2 \times \sqrt{0.413/0.782}$ ----- 24=_____

DrT-25. $\left[\dfrac{1.95 + 0.225 + \sqrt{0.401/0.2}}{-0.674 + 0.219}\right]^2$ ---------- 25=_____

Page DrU-3

DrU-21. $\dfrac{1}{4.71 + 7.46} + \dfrac{1}{10.5 - 21.7} + \dfrac{1}{(4.88)}$ ---------- 21=_____

DrU-22. $\dfrac{0.311 + 1/(\pi)}{1/(1.13) + 1.14} + \dfrac{1}{(2.2)}$ ---------- 22=_____

DrU-23. $(0.767)(0.595)\sqrt{(-0.105)^2/0.327} + 1/\sqrt{43.9 + 56.3}$ ------- 23=_____

DrU-24. $[-34.6 + \sqrt{694}]^2 \times [351 + 1310]^2 \times \sqrt{860/766}$ ---------- 24=_____

DrU-25. $\dfrac{\sqrt{153 + 130 + (7360)/(38.3)}}{517 + 399}$ ---------- 25=_____

Page DrV-3

DrV-21. $\left[\frac{(0.171)(0.32)}{-0.507} + 0.0961\right]^2 + \sqrt{1.38x10^{-8}}$ ---------- 21=_____

DrV-22. $\frac{0.0736 + 1/(9.54)}{1/(2.14) + 0.586} + \frac{1}{(4.79)}$ ---------- 22=_____

DrV-23. $[-30.1 + \sqrt{596}]^2 \times [776 + 967]^2 \times \sqrt{231/823}$ ---------- 23=_____

DrV-24. $\left[\frac{0.914 + 0.264 + \sqrt{0.213/0.489}}{-0.153 + 0.0255}\right]^2$ ---------- 24=_____

DrV-25. $(11.3)(0.784) + \sqrt{(509)/(9.61)} + [(0.344)(8.62)]^2$ ------ 25=_____

Page DrW-3

DrW-21. $\left[\frac{\sqrt{2.52 - 0.901}}{6.42} + \frac{(0.376)}{7.41}\right]^2$ ---------- 21=_____

DrW-22. $\left[\frac{(0.754)(0.49)}{2.31} + 0.123\right]^2 + \sqrt{0.00518}$ ---------- 22=_____

DrW-23. $\frac{\sqrt{\pi + 0.873 + (5.53)/(5.33)}}{-5.29 + 3.94}$ ---------- 23=_____

DrW-24. $\left[\frac{3.78 + 2.82 + \sqrt{0.628/0.817}}{-0.985 + 0.197}\right]^2$ ---------- 24=_____

DrW-25. $[-38.9 + \sqrt{780}]^2 \times [340 + 393]^2 \times \sqrt{900/531}$ ---------- 25=_____

Page DrX-3

DrX-21. $\frac{-0.0729 + 1/(-8.38)}{1/(0.27) + 5.69} + \frac{1}{(-25.3)}$ ---------- 21=_____

DrX-22. $\sqrt{\frac{(0.746)(4.43)}{835 + 288}} + 0.0394$ ---------- 22=_____

DrX-23. $(-288)(-0.0769) + \sqrt{(804)/(8.54)} + [(0.57)(7.28)]^2$ ----- 23=_____

DrX-24. $[-87.5 + \sqrt{1340}]^2 \times [379 + 494]^2 \times \sqrt{720/908}$ ---------- 24=_____

DrX-25. $(0.658)(0.529)\sqrt{(-0.62)^2/0.489} + 1/\sqrt{7.85 + 25.1}$ -------- 25=_____

Page DrY-3

DrY-21. $\left[\frac{\sqrt{1.14 - 0.494}}{-4.55} + \frac{(-0.168)}{1.22}\right]^2$ ---------- 21=_____

DrY-22. $\sqrt{\frac{(3.2)(8.13)}{855 + 791}} + 0.0859$ ---------- 22=_____

DrY-23. $(-97.2)(-0.00362)\sqrt{(-0.989)^2/0.43} + 1/\sqrt{3.39 + 4.78}$ ----- 23=_____

DrY-24. $[-11.8 + \sqrt{127}]^2 \times [905 + 1940]^2 \times \sqrt{8.3/6.83}$ --------- 24=_____

DrY-25. $(43.4)(0.824) + \sqrt{(750)/(1.12)} + [(0.689)(7.59)]^2$ ------ 25=_____

Page DrZ-3

DrZ-21. $\frac{-0.04 + 1/(-3.78)}{1/(0.242) + 8.12} + \frac{1}{(-5.74)}$ ---------- 21=_____

DrZ-22. $\left[\frac{\sqrt{2.73 - 1.2}}{4.58} + \frac{(1.3)}{7.5}\right]^2$ ---------- 22=_____

DrZ-23. $[-34.8 + \sqrt{667}]^2 \times [760 + 840]^2 \times \sqrt{\pi / 7.47}$ ---------- 23=_____

DrZ-24. $\left[\frac{15 + 14.4 + \sqrt{0.545/0.144}}{7.14 + 5.98}\right]^2$ ---------- 24=_____

DrZ-25. $(7.4)(5.32) + \sqrt{(654)/(2.79)} + [(0.634)(6.31)]^2$ -------- 25=_____

Page DrA-4

DrA-31. $\dfrac{(-2.10\text{x}10^{-6} + 6.65\text{x}10^{-6})^2}{\sqrt{66.6 - 65.3}} + \dfrac{5.76\text{x}10^{-14}}{\sqrt{7.55\text{x}10^{-5} + 2.64\text{x}10^{-4}}}$ ----- 31=_____

DrA-32. $\sqrt{\dfrac{1/(806 - 514)}{(631)(1.87 + 1.45)^2}} + (-2150)^2(2.06\text{x}10^{-10})$ --------- 32=_____

DrA-33. $\dfrac{(1.19\text{x}10^{5})^2(3.19\text{x}10^{-11} + 1.75\text{x}10^{-11})}{163 + (-0.373)(-1570)} + \dfrac{1}{\dfrac{1}{3.39\text{x}10^{-4}} + \dfrac{1}{(-2.04\text{x}10^{-4})}}$ 33=_____

DrA-34. $\dfrac{[(3.54 - 2.43)(0.881/0.359)]^{1/2}}{(0.535)^2 + (0.105 + 0.46)^2 + 0.238}$ ---------- 34=_____

DrA-35. $\dfrac{(158 + 390)^2 - (1410 - 43.7)^2}{\sqrt{(351)(0.612)(335 + 316 - 1500)^2}}$ ---------- 35=_____

Page DrB-4

DrB-31. $\sqrt{\dfrac{5.78}{\sqrt{92.9 + 61.2}}} \text{ x } \left[\dfrac{1}{(5.96 - 1.2)^2} + \dfrac{1}{(12.4 + 4.37)^2}\right]$ ----- 31=_____

DrB-32. $\dfrac{(-3.13 + 5.13)^2}{\sqrt{64.3 - 32.1}} + \dfrac{0.853}{\sqrt{3.82 + 3.98}}$ ---------- 32=_____

DrB-33. $\dfrac{[0.00351/(0.772 + 0.583) + 1/(190)]^{1/2}}{(91.5 + 295)^2 \text{ x } \sqrt{2250 - (-822)}}$ ---------- 33=_____

DrB-34. $\dfrac{(9.59\text{x}10^{5})^2(5.95\text{x}10^{-13} + 4.65\text{x}10^{-13})}{0.00108 + (-0.509)(-0.00254)} + \dfrac{1}{\dfrac{1}{303} + \dfrac{1}{(-69.8)}}$ ----- 34=_____

DrB-35. $\dfrac{\left[\dfrac{\sqrt{8610 + 19600}}{(2120)(4840)+(3200)^2}\right]}{\sqrt{4640 + 7740} + (6.28 - 5.15)^2}$ ---------- 35=_____

Page DrC-4

DrC-31. $\left[\frac{-4.50\text{x}10^{6}}{-7.75\text{x}10^{6} + 6.51\text{x}10^{6}} + 6.91\right] \text{ x } \left\{502 + (-32.3)^{2} - \sqrt{2.07\text{x}10^{6}}\right\}$ 31=_____

DrC-32. $\sqrt{\frac{4.14}{\sqrt{30.9 + 8.29}}} \text{ x } \left[\frac{1}{(6.49 - 5.45)^{2}} + \frac{1}{(2.12 + 2.11)^{2}}\right]$ ---- 32=_____

DrC-33. $\frac{\sqrt{(1.76)/\left\{(0.863)/\sqrt{9.99}\right\}}}{0.793 + (0.618)(5.13)} + \{0.102 + 0.779\}^{1/2}$ ---------- 33=_____

DrC-34. $\frac{(9.41)^{2} + \sqrt{1070}}{\sqrt{(0.00471)(-73.5)^{2}}} + \frac{\sqrt{\sqrt{(2.44\text{x}10^{-4})(0.788)}}}{0.00197 + 0.00321}$ ---------- 34=_____

DrC-35. $\frac{(5.51 + 18)^{2} - (29.9 - \pi)^{2}}{\sqrt{(258)\ (0.932)\ (989 + 255 - 2030)^{2}}}$ ---------- 35=_____

Page DrD-4

DrD-31. $\frac{1}{0.0247} + \frac{1}{\sqrt{4.52\text{x}10^{-4}}} + \frac{(\pi + 4.45 - 1.98)^{2}}{\sqrt{1.73 - 1.22}}$ ---------- 31=_____

DrD-32. $\left[\frac{-3.32\text{x}10^{5}}{4.44\text{x}10^{6} + 9.71\text{x}10^{5}} + 0.0937\right] \text{ x } \left\{723 + (-28.1)^{2} - \sqrt{9.59\text{x}10^{5}}\right\}$ 32=_____

DrD-33. $\frac{[(0.065 - 0.0558)(0.517/0.653)]^{1/2}}{(0.532)^{2} + (0.536 + 0.672)^{2} + 1.4}$ ---------- 33=_____

DrD-34. $\frac{\sqrt{(4.77)/\left\{(4.87)/\sqrt{3.84}\right\}}}{0.235 + (0.922)(4.68)} + \{0.0415 + 0.247\}^{1/2}$ ---------- 34=_____

DrD-35. $\frac{\frac{1}{3470} + \frac{7.47}{(142 + 108)^{2}} - \frac{\sqrt{3.78\text{x}10^{-5}}}{(-7.16)^{2}}}{(-5.86 + 14.3)^{2} + (-87.2)}$ ---------- 35=_____

Page DrE-4

DrE-31. $\sqrt{\dfrac{1/(465 - 179)}{(176)(1.48 + 1.31)^2}} + (4.45\text{x}10^{6})^2(1.81\text{x}10^{-17})$ ------ 31=_____

DrE-32. $\dfrac{1}{0.00353} + \dfrac{1}{\sqrt{1.71\text{x}10^{-5}}} + \dfrac{(9.23 + 14 - 8.71)^2}{\sqrt{1.33 - 0.41}}$ ---------- 32=_____

DrE-33. $\dfrac{(\pi)^2 + \sqrt{547}}{\sqrt{(4830)\ (-68.8)^2}} + \dfrac{\sqrt{\sqrt{(4.24\text{x}10^{11})(0.564)}}}{8740 + 70200}$ ---------- 33=_____

DrE-34. $\dfrac{(2.98\text{x}10^{5})^2(3.28\text{x}10^{-12} + 6.89\text{x}10^{-13})}{0.00322 + (-0.281)(0.086)} + \dfrac{1}{\dfrac{1}{-11.2} + \dfrac{1}{(4.68)}}$ ---- 34=_____

DrE-35. $\dfrac{\dfrac{1}{68400} + \dfrac{9.43}{(483+448)^2} - \dfrac{\sqrt{7.76\text{x}10^{-8}}}{(\pi)^2}}{(-1.11+2.45)^2 + (-3.75)}$ ---------- 35=_____

Page DrF-4

DrF-31. $\dfrac{(1.55\text{x}10^{6} + 2.13\text{x}10^{6})^2}{\sqrt{31.4 - 21.6}} + \dfrac{3.34\text{x}10^{15}}{\sqrt{9.88\text{x}10^{6} + 1.28\text{x}10^{7}}}$ --------- 31=_____

DrF-32. $\sqrt{\dfrac{1/(727 - 483)}{(104)(1.15 + 0.997)^2}} + (-0.977)^2(0.00251)$ ---------- 32=_____

DrF-33. $\dfrac{(1.52\text{x}10^{5})^2(1.14\text{x}10^{-11} + 8.24\text{x}10^{-12})}{5.41 + (-0.963)(26.3)} + \dfrac{1}{\dfrac{1}{-0.0223} + \dfrac{1}{(0.0042)}}$ 33=_____

DrF-34. $\dfrac{[(7.4 - 2.73)(0.398/0.114)]^{1/2}}{(0.296)^2 + (0.138 + 0.21)^2 + 0.0731}$ ---------- 34=_____

DrF-35. $\dfrac{(-0.562 + 2.97)^2 - (5.94 - 0.0957)^2}{\sqrt{(44.6)(0.218)(132 + 117 - 202)^2}}$ ---------- 35=_____

Page DrG-4

DrG-31. $\sqrt{\dfrac{9.9}{\sqrt{80.4 + 29.8}}} \times \left[\dfrac{1}{(2.44 - 1.98)^2} + \dfrac{1}{(0.534 + 0.181)^2}\right]$ --- 31=_____

DrG-32. $\dfrac{(55.2 + 104)^2}{\sqrt{67 - 27}} + \dfrac{17600}{\sqrt{20 + 50.4}}$ ---------- 32=_____

DrG-33. $\dfrac{[0.0133/(0.585 + 0.758) + 1/(52.6)]^{1/2}}{(19.9 + 22.1)^2 \times \sqrt{51.8 - (-51.7)}}$ ---------- 33=_____

DrG-34. $\dfrac{[(6.92 - 3.83)(0.446/0.586)]^{1/2}}{(0.905)^2 + (0.118 + 1.1)^2 + 0.415}$ ---------- 34=_____

DrG-35. $\dfrac{\left[\dfrac{(-66.5 + 7.14)}{(352 + 647)}\right]^2 + \sqrt{\dfrac{6.22\text{x}10^{-6} + 9.01\text{x}10^{-6}}{\sqrt{0.115}}}}{\{(-16.9)/(51.7)\}^2}$ ---------- 35=_____

Page DrH-4

DrH-31. $\left[\dfrac{-6.26\text{x}10^{-5}}{9.94\text{x}10^{-5} + 3.50\text{x}10^{-5}} + 2.68\right] \times \left\{8380 + (-93.2)^2 - \sqrt{1.46\text{x}10^{8}}\right\}$ 31=_____

DrH-32. $\sqrt{\dfrac{3.36}{\sqrt{12.7 + 9.85}}} \times \left[\dfrac{1}{(6.75 - \pi)^2} + \dfrac{1}{(2.09 + 0.385)^2}\right]$--------- 32=_____

DrH-33. $\dfrac{\sqrt{(0.00547)/\left\{(0.00122)/\sqrt{0.00454}\right\}}}{0.189 + (0.793)(1.1)} + \{0.224 + 0.293\}^{1/2}$ --- 33=_____

DrH-34. $\dfrac{[18.4/(0.524 + 0.774) + 1/(0.0371)]^{1/2}}{(0.0845 + 0.124)^2 \times \sqrt{0.189 - (0.0729)}}$ ---------- 34=_____

DrH-35. $\dfrac{\left[\dfrac{(-469 + 238)}{(514 + 874)}\right]^2 + \sqrt{\dfrac{6.31\text{x}10^{-4} + 0.00181}{\sqrt{0.247}}}}{\{(-704)/(286)\}^2}$ ---------- 35=_____

Page DrI-4

DrI-31. $\dfrac{1}{6.96\text{x}10^{-5}} + \dfrac{1}{\sqrt{1.43\text{x}10^{-8}}} + \dfrac{(6.14 + 59.4 - 9.1)^2}{\sqrt{0.486 - 0.337}}$ ---------- 31=_____

DrI-32. $\sqrt{\dfrac{1/(140 - 95.5)}{(540)(2.85 + 2.11)^2}} + (5.65\text{x}10^{6})^2(7.32\text{x}10^{-17})$ ------ 32=_____

DrI-33. $\dfrac{[(9.79 - 8.73)(0.33/0.827)]^{1/2}}{(0.334)^2 + (0.129 + 0.243)^2 + 0.124}$ ---------- 33=_____

DrI-34. $\dfrac{(8.11)^2 + \sqrt{2600}}{\sqrt{(92.3)(-96.2)^2}} + \dfrac{\sqrt{\sqrt{(2590)(0.666)}}}{-59.6 + 116}$ ---------- 34=_____

DrI-35. $\dfrac{\left[\dfrac{(-0.0273 + 0.0248)}{(677 + 1070)}\right]^2 + \sqrt{\dfrac{1.08\text{x}10^{-24} + 1.19\text{x}10^{-24}}{\sqrt{0.379}}}}{\{(0.0761)/(0.00548)\}^2}$ ------- 35=_____

Page DrJ-4

DrJ-31. $\sqrt{\dfrac{1/(877 - 818)}{(364)(3.86 + 3.36)^2}} + (3170)^2(2.31\text{x}10^{-10})$ ---------- 31=_____

DrJ-32. $\dfrac{(-929 + 1100)^2}{\sqrt{68.6 - 36.1}} + \dfrac{72700}{\sqrt{549 + 706}}$ ---------- 32=_____

DrJ-33. $\dfrac{[0.00834/(0.653 + 0.862) + 1/(64.5)]^{1/2}}{(77.4 + 108)^2 \text{ x } \sqrt{293 - (86.7)}}$ ---------- 33=_____

DrJ-34. $\dfrac{(9.39)^2 + \sqrt{5290}}{\sqrt{(9.71)(-24.9)^2}} + \dfrac{\sqrt{\sqrt{(1.19\text{x}10^{5})(0.946)}}}{2.31 + 6.65}$ ---------- 34=_____

DrJ-35. $\dfrac{\left[\dfrac{\sqrt{768 + 1880}}{(5690)(12400)+(8400)^2}\right]}{\sqrt{5440 + 9390} + (8.29 - 4.23)^2}$ ---------- 35=_____

Page DrK-4

DrK-31. $\dfrac{(0.00331 + 0.0139)^2}{\sqrt{86.3 - 34.2}} + \dfrac{1.02\text{x}10^{-6}}{\sqrt{0.0073 + 0.0205}}$ ---------- 31=_____

DrK-32. $\sqrt{\dfrac{6.49}{\sqrt{37.8 + 27.2}}} \text{ x } \left[\dfrac{1}{(6.91 - 5.99)^2} + \dfrac{1}{(\pi + 2.89)^2}\right]$ --------- 32=_____

DrK-33. $\dfrac{\sqrt{(310)/\{(5530)/\sqrt{9270}\}}}{0.43 + (0.897)(1.03)} + \{1.94 + \pi\}^{1/2}$ ---------- 33=_____

DrK-34. $\dfrac{[(0.0372 - 0.0282)(0.437/0.18)]^{1/2}}{(0.432)^2 + (0.307 + 0.541)^2 + 0.228}$ ---------- 34=_____

DrK-35. $\dfrac{\left[\dfrac{(8130 + 831)}{(723 + 798)}\right]^2 + \sqrt{\dfrac{267 + 416}{\sqrt{0.895}}}}{\{(-4070)/(625)\}^2}$ ---------- 35=_____

Page DrL-4

DrL-31. $\sqrt{\dfrac{\pi}{\sqrt{67.9 + 66.8}}} \text{ x } \left[\dfrac{1}{(7.93 - 4.11)^2} + \dfrac{1}{(8.43 + 2.75)^2}\right]$ ------ 31=_____

DrL-32. $\left[\dfrac{-5840}{-3230 + 1470} + 4.74\right] \text{ x } \left\{694 + (-30.8)^2 - \sqrt{1.46\text{x}10^6}\right\}$ ----- 32=_____

DrL-33. $\dfrac{[(0.443 - 0.324)(0.398/0.932)]^{1/2}}{(0.321)^2 + (0.169 + 0.232)^2 + 0.109}$ ---------- 33=_____

DrL-34. $\dfrac{(2.96\text{x}10^5)^2(9.52\text{x}10^{-12} + 5.95\text{x}10^{-12})}{106 + (-0.913)(613)} + \dfrac{1}{\dfrac{1}{-7.75\text{x}10^{-4}} + \dfrac{1}{(0.00211)}}$ 34=_____

DrL-35. $\dfrac{\left[\dfrac{\sqrt{3.15\text{x}10^{-5} + 1.02\text{x}10^{-4}}}{(2030)(3450)+(2650)^2}\right]}{\sqrt{9.63\text{x}10^{-5} + 2.90\text{x}10^{-4}} + (0.124 - 0.0959)^2}$ ---------- 35=_____

Page DrM-4

DrM-31. $\dfrac{(80.2 + 105)^2}{\sqrt{72.2 - 46.2}} + \dfrac{23700}{\sqrt{17.3 + 31.5}}$ ---------- 31=_____

DrM-32. $\dfrac{1}{0.0425} + \dfrac{1}{\sqrt{9.65\text{x}10^{-4}}} + \dfrac{(2.58 + 3.67 - 2.38)^2}{\sqrt{0.778 - 0.214}}$ ---------- 32=_____

DrM-33. $\dfrac{(3.78)^2 + \sqrt{147}}{\sqrt{(65.1)(-96.7)^2}} + \dfrac{\sqrt{\sqrt{(8900)(0.495)}}}{99.2 + 188}$ ---------- 33=_____

DrM-34. $\dfrac{[(9.71 - 4.12)(0.911/0.813)]^{1/2}}{(0.128)^2 + (0.134 + 0.151)^2 + 0.058}$ ---------- 34=_____

DrM-35. $\dfrac{\left[\dfrac{51200}{709}\right]^2 + \sqrt{\dfrac{(0.428)(0.812)}{(2.44\text{x}10^{-8})}} + (11900)}{0.731 + \sqrt{(-0.906)(-0.811)}}$ ---------- 35=_____

Page DrN-4

DrN-31. $\sqrt{\dfrac{1.26}{\sqrt{45 + 31}}} \text{ x } \left[\dfrac{1}{(6.52 - 4.96)^2} + \dfrac{1}{(2.4 + 1.64)^2}\right]$ ---------- 31=_____

DrN-32. $\sqrt{\dfrac{1/(962 - 680)}{(101)(1.46 + 1.21)^2}} + (-1.97\text{x}10^{-4})^2(58700)$ ---------- 32=_____

DrN-33. $\dfrac{(9.25\text{x}10^5)^2(1.67\text{x}10^{-13} + 1.70\text{x}10^{-14})}{8300 + (-0.466)(21400)} + \dfrac{1}{\dfrac{1}{-4.88\text{x}10^{-5}} + \dfrac{1}{(7.92\text{x}10^{-5})}}$ 33=_____

DrN-34. $\dfrac{[(582 - 322)(0.989/0.101)]^{1/2}}{(0.313)^2 + (0.173 + 0.653)^2 + 0.228}$ ---------- 34=_____

DrN-35. $\dfrac{\left[\dfrac{70800}{209}\right]^2 + \sqrt{\dfrac{(0.59)(0.857)}{(7.56\text{x}10^{-11})}} + (1.15\text{x}10^5)}{0.441 + \sqrt{(-0.138)(-0.319)}}$ ---------- 35=_____

Page DrO-4

DrO-31. $\left[\frac{-7.28}{2.71 + \pi} + 3.32\right] \times \left\{5800 + (-88.3)^2 - \sqrt{7.09 \times 10^7}\right\}$ ------- 31=_____

DrO-32. $\frac{(-0.649 + 0.847)^2}{\sqrt{71.3 - 30.7}} + \frac{0.0213}{\sqrt{8.69 + 40.7}}$ ---------- 32=_____

DrO-33. $\frac{[0.0813/(0.466 + 0.137) + 1/(7.02)]^{1/2}}{(93.5 + 231)^2 \times \sqrt{89.2 - (-82.8)}}$ ---------- 33=_____

DrO-34. $\frac{(2.89 \times 10^5)^2 (4.95 \times 10^{-12} + 2.70 \times 10^{-12})}{155 + (-0.857)(737)} + \frac{1}{\frac{1}{-0.00127} + \frac{1}{(0.00128)}}$ 34=_____

DrO-35. $\frac{(-7880 + 8740)^2 - (21100 - 5150)^2}{\sqrt{(1030)(0.754)(270 + 197 - 1790)^2}}$ ---------- 35=_____

Page DrP-4

DrP-31. $\frac{1}{0.00101} + \frac{1}{\sqrt{8.35 \times 10^{-6}}} + \frac{(6.51 + 12.7 - 1.34)^2}{\sqrt{2.52 - 0.344}}$ ---------- 31=_____

DrP-32. $\sqrt{\frac{5.71}{\sqrt{19.6 + 6.38}}} \times \left[\frac{1}{(7.18 - 5.54)^2} + \frac{1}{(2.56 + 0.384)^2}\right]$ --- 32=_____

DrP-33. $\frac{\sqrt{(0.339)/\left\{(0.344)/\sqrt{0.383}\right\}}}{0.17 + (0.171)(1.27)} + \left\{1.39 + \pi\right\}^{1/2}$ ---------- 33=_____

DrP-34. $\frac{(\pi)^2 + \sqrt{1040}}{\sqrt{(6.51)(-47.7)^2}} + \frac{\sqrt{\sqrt{(0.173)(0.824)}}}{-0.262 + 1.06}$ ---------- 34=_____

DrP-35. $\frac{(-900 + 8190)^2 - (8950 - 852)^2}{\sqrt{(205)(0.761)(741 + 231 - 1840)^2}}$ ---------- 35=_____

Page DrQ-4

DrQ-31. $\sqrt{\dfrac{1/(913 - 403)}{(441)(1.07 + 0.335)^2}} + (-6.63)^2(2.25\text{x}10^{-5})$ --------- 31=_____

DrQ-32. $\sqrt{\dfrac{7.23}{\sqrt{60.7 + 20.7}}} \text{ x } \left[\dfrac{1}{(2.12 - 0.355)^2} + \dfrac{1}{(2.49 + 2.19)^2}\right]$ --- 32=_____

DrQ-33. $\dfrac{(2.11\text{x}10^5)^2(4.65\text{x}10^{-12} + 1.30\text{x}10^{-12})}{252 + (-0.461)(-1550)} + \dfrac{1}{\dfrac{1}{1.77\text{x}10^{-4}} + \dfrac{1}{(-2.36\text{x}10^{-4})}}$ 33=_____

DrQ-34. $\dfrac{[(86900 - 27900)(0.664/0.979)]^{1/2}}{(2.6)^2 + (0.492 + 4.82)^2 + 24.6}$ ---------- 34=_____

DrQ-35. $\dfrac{(-7.39 + 41.5)^2 - (41.9 - 1.24)^2}{\sqrt{(7.32)(0.702)(870 + 465 - 1350)^2}}$ ---------- 35=_____

Page DrR-4

DrR-31. $\dfrac{(97.8 + 355)^2}{\sqrt{37.1 - 12.9}} + \dfrac{3.91\text{x}10^5}{\sqrt{43.1 + 320}}$ ---------- 31=_____

DrR-32. $\sqrt{\dfrac{7.28}{\sqrt{88.9 + 60.7}}} \text{ x } \left[\dfrac{1}{(5.53 - 3.29)^2} + \dfrac{1}{(6.12 + \pi)^2}\right]$ ------- 32=_____

DrR-33. $\dfrac{\sqrt{(5.39)/\{(6.35)/\sqrt{8.99}\}}}{0.851 + (0.218)(4.15)} + \{0.188 + 0.785\}^{1/2}$ ---------- 33=_____

DrR-34. $\dfrac{(3.99\text{x}10^5)^2(5.36\text{x}10^{-12} + 4.35\text{x}10^{-12})}{349 + (-0.483)(888)} + \dfrac{1}{\dfrac{1}{-0.0132} + \dfrac{1}{(0.00435)}}$ 34=_____

DrR-35. $\dfrac{\dfrac{1}{0.175} + \dfrac{3.36\text{x}10^5}{(294 + 39.8)^2} - \dfrac{\sqrt{1.28\text{x}10^{20}}}{(61200)^2}}{(-55100 + 1.11\text{x}10^5)^2 + (-4.74\text{x}10^9)}$ ---------- 35=_____

Page DrS-4

DrS-31. $\sqrt{\frac{5.38}{\sqrt{32.5 + 13}}} \times \left[\frac{1}{(\pi - 1.41)^2} + \frac{1}{(6.86 + 4.59)^2}\right]$ ---------- 31=_____

DrS-32. $\sqrt{\frac{1/(734 - 656)}{(822)(1.08 + 0.483)^2}} + (-4.03\text{x}10^{-6})^2(5.25\text{x}10^{7})$ ----- 32=_____

DrS-33. $\frac{(8.56)^2 + \sqrt{1480}}{\sqrt{(3.68\text{x}10^{-4})(-15.6)^2}} + \frac{\sqrt{\sqrt{(3.56\text{x}10^{-6})(0.766)}}}{-9.84\text{x}10^{-4} + 0.0011}$ --------- 33=_____

DrS-34. $\frac{\sqrt{(0.616)/\{(0.854)/\sqrt{0.838}\}}}{0.387 + (0.646)(7.14)} + \{0.0202 + 0.0817\}^{1/2}$ ------ 34=_____

DrS-35. $\frac{\frac{1}{-1740} + \frac{-5.89}{(199+35.9)^2} - \frac{\sqrt{9.46\text{x}10^{-6}}}{(5.36)^2}}{(-5.9+7.18)^2 + (\pi)}$ ---------- 35=_____

Page DrT-4

DrT-31. $\left[\frac{-0.0551}{0.00409 + 0.00327} + 32.6\right] \times \left\{1150 + (-59.2)^2 - \sqrt{1.45\text{x}10^{7}}\right\}$ 31=_____

DrT-32. $\sqrt{\frac{1/(739 - 247)}{(182)(1.72 + 0.395)^2}} + (-287)^2(1.54\text{x}10^{-8})$ ---------- 32=_____

DrT-33. $\frac{[(57.7 - 16.1)(0.311/0.994)]^{1/2}}{(0.36)^2 + (0.151 + 0.385)^2 + 0.0522}$ ---------- 33=_____

DrT-34. $\frac{(5.54)^2 + \sqrt{308}}{\sqrt{(9.26)(-47.9)^2}} + \frac{\sqrt{\sqrt{(4850)(0.769)}}}{-4.17 + 29.4}$ ---------- 34=_____

DrT-35. $\frac{\left[\frac{(4860 + 3240)}{(225 + 903)}\right]^2 + \sqrt{\frac{1970 + 2120}{\sqrt{0.969}}}}{\{(-4860)/(3150)\}^2}$ ---------- 35=_____

Page DrU-4

DrU-31. $\frac{1}{0.051} + \frac{1}{\sqrt{2.79\text{x}10^{-4}}} + \frac{(1.62 + 10.2 - 7.26)^2}{\sqrt{1.28 - 0.158}}$ ---------- 31=_____

DrU-32. $\sqrt{\frac{1/(744 - 503)}{(102)(4.15 + 3.79)^2}} + (-1.7)^2(6.49\text{x}10^{-4})$ ---------- 32=_____

DrU-33. $\frac{(6.01\text{x}10^5)^2(9.57\text{x}10^{-13} + 8.93\text{x}10^{-13})}{5.14 + (-0.427)(-96.7)} + \frac{1}{\frac{1}{0.0141} + \frac{1}{(-0.00749)}}$ 33=_____

DrU-34. $\frac{[0.0095/(0.516 + 0.312) + 1/(66.4)]^{1/2}}{(50.5 + 120)^2 \text{ x } \sqrt{139 - (54.5)}}$ ---------- 34=_____

DrU-35. $\frac{\left[\frac{(-0.439 + 0.364)}{(270 + 468)}\right]^2 + \sqrt{\frac{4.37\text{x}10^{-17} + 2.70\text{x}10^{-16}}{\sqrt{0.477}}}}{\{(-0.717)/(-0.323)\}^2}$ ---------- 35=_____

Page DrV-4

DrV-31. $\sqrt{\frac{1/(425 - 420)}{(120)(1.91 + 0.576)^2}} + (-7910)^2(1.87\text{x}10^{-10})$ -------- 31=_____

DrV-32. $\left[\frac{-0.00652}{-0.00155 + 0.00116} + 144\right] \text{ x } \left\{2020 + (-50.3)^2 - \sqrt{9.17\text{x}10^6}\right\}$ 32=_____

DrV-33. $\frac{\sqrt{(0.00306)/\{(0.00671)/\sqrt{0.00672}\}}}{0.179 + (0.87)(2.63)} + \{0.00119 + 0.00217\}^{1/2}$ 33=_____

DrV-34. $\frac{[(0.0763 - 0.0541)(0.704/0.145)]^{1/2}}{(0.245)^2 + (0.143 + 0.156)^2 + 0.0518}$ ---------- 34=_____

DrV-35. $\frac{\left[\frac{\sqrt{0.0635 + 0.0641}}{(2840)(3480)+(3150)^2}\right]}{\sqrt{0.00396 + 0.00413} + (0.163 - 0.144)^2}$ ---------- 35=_____

Page DrW-4

DrW-31. $\dfrac{(-8.46\text{x}10^{-4} + 0.00123)^2}{\sqrt{91.9 - 87.9}} + \dfrac{1.51\text{x}10^{-9}}{\sqrt{6.89\text{x}10^{-4} + 0.00111}}$ --------- 31=_____

DrW-32. $\left[\dfrac{-1.78\text{x}10^{-6}}{-1.12\text{x}10^{-6} + 8.48\text{x}10^{-7}} + 14.2\right] \text{ x } \left\{3960 + (-93)^2 - \sqrt{1.55\text{x}10^{8}}\right\}$ 32=_____

DrW-33. $\dfrac{(3.46)^2 + \sqrt{59.6}}{\sqrt{(2.15)(-80.8)^2}} + \dfrac{\sqrt{\sqrt{(91.9)(0.174)}}}{8.6 + 10}$ ---------- 33=_____

DrW-34. $\dfrac{(7.86\text{x}10^{5})^2(1.44\text{x}10^{-12} + 1.27\text{x}10^{-12})}{69.8 + (-0.981)(136)} + \dfrac{1}{\dfrac{1}{-0.00578} + \dfrac{1}{(0.0138)}}$ 34=_____

DrW-35. $\dfrac{\left[\dfrac{\sqrt{0.029 + 0.114}}{(1190)(10900)+(3590)^2}\right]}{\sqrt{0.0435 + 0.0704} + (0.379 - 0.149)^2}$ ---------- 35=_____

Page DrX-4

DrX-31. $\sqrt{\dfrac{9.5}{\sqrt{20 + 2.27}}} \text{ x } \left[\dfrac{1}{(8.49 - 1.51)^2} + \dfrac{1}{(9.73 + 6.38)^2}\right]$ ------ 31=_____

DrX-32. $\dfrac{(29600 + 39000)^2}{\sqrt{79.8 - 36.5}} + \dfrac{1.60\text{x}10^{11}}{\sqrt{74900 + 6.46\text{x}10^{5}}}$ ---------- 32=_____

DrX-33. $\dfrac{[8.48\text{x}10^{-6}/(0.45 + 0.746) + 1/(78900)]^{1/2}}{(17600 + 28100)^2 \text{ x } \sqrt{61200 - (-42900)}}$ ---------- 33=_____

DrX-34. $\dfrac{\sqrt{(98400)/\{(98900)/\sqrt{43000}\}}}{12.4 + (0.711)(5.58)} + \{0.277 + 1.74\}^{1/2}$ --------- 34=_____

DrX-35. $\dfrac{\left[\dfrac{0.785}{416}\right]^2 + \sqrt{\dfrac{(0.404)(0.657)}{(2.18\text{x}10^{10})}} + (6.37\text{x}10^{-6})}{0.437 + \sqrt{(-0.802)(-0.24)}}$ ---------- 35=_____

Page DrY-4

DrY-31. $\left[\frac{-3.75\text{x}10^{5}}{-1.90\text{x}10^{5} + 59100} + 3.69\right] \text{ x } \left\{732 + (-30)^{2} - \sqrt{9.70\text{x}10^{5}}\right\}$ -- 31=_____

DrY-32. $\frac{(77.1 + 101)^{2}}{\sqrt{23.9 - 21.1}} + \frac{59800}{\sqrt{4.45 + 6.6}}$ ---------- 32=_____

DrY-33. $\frac{(9.91\text{x}10^{5})^{2}(4.94\text{x}10^{-13} + 3.38\text{x}10^{-13})}{0.79 + (-0.392)(-2.53)} + \frac{1}{\frac{1}{0.19} + \frac{1}{(-0.0801)}}$ -- 33=_____

DrY-34. $\frac{(9.41)^{2} + \sqrt{2880}}{\sqrt{(0.0227)(-54.5)^{2}}} + \frac{\sqrt{\sqrt{(14.4)(0.681)}}}{0.0438 + 0.0685}$ ---------- 34=_____

DrY-35. $\frac{\left[\frac{-0.0014}{579}\right]^{2} + \sqrt{\frac{(0.449)(0.985)}{(2.43\text{x}10^{22})}} + (8.49\text{x}10^{-12})}{0.399 + \sqrt{(-0.311)(-0.85)}}$ --------- 35=_____

Page DrZ-4

DrZ-31. $\sqrt{\frac{5.74}{\sqrt{87 + 62.5}}} \text{ x } \left[\frac{1}{(\pi - 2.98)^{2}} + \frac{1}{(4.5 + 0.5)^{2}}\right]$ ---------- 31=_____

DrZ-32. $\frac{(-1.63\text{x}10^{6} + 3.94\text{x}10^{6})^{2}}{\sqrt{77.1 - 44.7}} + \frac{1.17\text{x}10^{15}}{\sqrt{4.12\text{x}10^{6} + 1.00\text{x}10^{7}}}$ --------- 32=_____

DrZ-33. $\frac{(2.84)^{2} + \sqrt{26.9}}{\sqrt{(50500)(-52)^{2}}} + \frac{\sqrt{\sqrt{(1.67\text{x}10^{9})(0.159)}}}{68400 + 1.10\text{x}10^{5}}$ ---------- 33=_____

DrZ-34. $\frac{[(9210 - 2690)(0.119/0.555)]^{1/2}}{(0.327)^{2} + (0.265 + 0.288)^{2} + 0.0927}$ ---------- 34=_____

DrZ-35. $\frac{\left[\frac{\sqrt{9390 + 18300}}{(3660)(15000)+(7420)^{2}}\right]}{\sqrt{971 + 2360} + (5.33 - 4.38)^{2}}$ ---------- 35=_____

Page DrA-5

DrA-41. $10^{-\{(0.26 - 0.43)/(0.38 + 0.284)\}}$ ---------- 41=_____

DrA-42. $-535\ e^{0.553} + (-439)\ e^{-0.841}$ ---------- 42=_____

DrA-43. $(0.00865 - 0.0194)\ \mathrm{Ln}\{(-0.0063)(-0.00348)\}$ ---------- 43=_____

DrA-44. $(929 + 1200)^{1/3} + 1/\{(790)^{-0.0849}\}$ ---------- 44=_____

DrA-45.(deg) $\sin\left[90° \times \frac{(-3.89\times10^{5})}{(2.73\times10^{6})}\right] + \cos\{112° - 69°\}$ ------- 45=_____

Page DrB-5

DrB-41. $(-9.41\times10^{5})(2.91\times10^{5})10^{\{-4.13\times10^{5}/-73300\}}$ --------- 41=_____

DrB-42. $-2.65\times10^{6}\ e^{0.767} + (-2.38\times10^{6})\ e^{-0.773}$ ---------- 42=_____

DrB-43. $\frac{(0.0077)\mathrm{Log}(0.00281 - 0.00221)}{(0.00806)}$ ---------- 43=_____

DrB-44. $(1.80\times10^{5} + 1.97\times10^{5})^{-(0.557 + 0.158)}$ ---------- 44=_____

DrB-45.(deg) $\{(-82.4)\sin(-177°)\} \times \{(76)\cos(-45.9°)\}$ ---------- 45=_____

Page DrC-5

DrC-41. $\frac{10^{-(1.19 - 8.24)}}{-0.00839 + 0.00381}$ ---------- 41=_____

DrC-42. $0.00571\ e^{0.98} + (0.00557)\ e^{-0.704}$ ---------- 42=_____

DrC-43. $(6740)\mathrm{Log}\{(3240)(2.77 + 1/0.227)\}$ ---------- 43=_____

DrC-44. $(8.66)^{3} + (35.8 - 12.1)^{1.9}$ ---------- 44=_____

DrC-45.(deg) $\frac{\cos\{(83.6°)/(7.88)\}}{\sin\{161° - 625°\}}$ ---------- 45=_____

Page DrD-5

DrD-41. $10^{-\{(0.465 - 0.571)/(0.492 + 0.312)\}}$ ---------- 41=_____

DrD-42. $\frac{e^{+0.154} + e^{-0.294}}{(65900 + 56500)}$ ---------- 42=_____

DrD-43. $(5780 - 10200)\ \mathrm{Ln}\{(-7570)(-2770)\}$ ---------- 43=_____

DrD-44. $(877 + 7300)^{1/3} + 1/\{(503)^{-0.207}\}$ ---------- 44=_____

DrD-45.(deg) $\sin\left[90° \times \frac{(-3.95\times10^{-4})}{(4.53\times10^{-4})}\right] + \cos\{75.8° - 10°\}$ ----- 45=_____

Page DrE-5

DrE-41. $\dfrac{10^{-(1.86 - 3.18)}}{3.10\text{x}10^{-7} + 1.64\text{x}10^{-7}}$ ---------- 41=_____

DrE-42. $\dfrac{e^{+0.232} + e^{-0.507}}{(-94700 + 8180)}$ ---------- 42=_____

DrE-43. $\dfrac{(0.00482)\text{Log}(0.0041 - 0.00373)}{(0.00181)}$ ---------- 43=_____

DrE-44. $(4.66\text{x}10^{5} + 5.42\text{x}10^{5})^{-(0.802 + 0.781)}$ ---------- 44=_____

DrE-45.(deg) $\{(82)\sin(-147°)\} \text{ x } \{(99.3)\cos(-172°)\}$ ---------- 45=_____

Page DrF-5

DrF-41. $10^{-\{(0.342 - 0.965)/(0.567 + 0.147)\}}$ ---------- 41=_____

DrF-42. $\dfrac{e^{+0.31} + e^{-0.721}}{(-5.52 + 2.99)}$ ---------- 42=_____

DrF-43. $(0.00386)\text{Log}\{(0.00453)(0.314 + 1/0.35)\}$ ---------- 43=_____

DrF-44. $(13.9)^{3} + (33.7 - 19.7)^{2.63}$ ---------- 44=_____

DrF-45.(deg) $\dfrac{\cos\{(68.2°)/(5.88)\}}{\sin\{73.7° - 117°\}}$ ---------- 45=_____

Page DrG-5

DrG-41. $(-7650)(-5580)10^{\{-5410/-3850\}}$ ---------- 41=_____

DrG-42. $\dfrac{e^{+0.387} + e^{-0.934}}{(-1.58\text{x}10^{6} + 2.81\text{x}10^{6})}$ ---------- 42=_____

DrG-43. $-0.299 + (0.671)\text{Ln}(1.29 - 0.691)$ ---------- 43=_____

DrG-44. $(825 + 2260)^{1/3} + 1/\{(244)^{-0.329}\}$ ---------- 44=_____

DrG-45.(deg) $\sin\left[90° \text{ x } \dfrac{(-7.51)}{(10.7)}\right] + \cos\{39.7° - 21.8°\}$ -------- 45=_____

Page DrH-5

DrH-41. $\dfrac{10^{-(3.65 - 4.59)}}{-9.67\text{x}10^{-5} + 6.21\text{x}10^{-5}}$ ---------- 41=_____

DrH-42. $\dfrac{(-643)}{(89.4)}\left[1 - e^{-(0.465)(0.247)}\right]$ ---------- 42=_____

DrH-43. $\dfrac{1940 - 14800}{\text{Log}(4070 + 3920)}$ ---------- 43=_____

DrH-44. $(7.52 + 9.31)^{-(0.147 + 0.503)}$ ---------- 44=_____

DrH-45.(deg) $\{(4.64\text{x}10^{-5})\sin(-116°)\} \text{ x } \{(-7.75\text{x}10^{-5})\cos(-136°)\}$ 45=_____

Page DrI-5

DrI-41. $(-2.94)(-0.974)10^{\{\pi\ /\ 1.25\}}$ ---------- 41=_____

DrI-42. $\frac{(-0.0372)}{(0.0834)}\left[1 - e^{-(0.543)(0.461)}\right]$ ---------- 42=_____

DrI-43. $\frac{\mathrm{Ln}(981 + 2080 - 481)}{(134)}$ ---------- 43=_____

DrI-44. $(3.86)^{3} + (31.6 - 26.2)^{0.663}$ ---------- 44=_____

DrI-45.(deg) $\frac{\cos\{(52.8°)/(3.87)\}}{\sin\{149° - 1410°\}}$ ---------- 45=_____

Page DrJ-5

DrJ-41. $\frac{10^{-(2.86 - 8.52)}}{1.82\text{x}10^{5} + 1.30\text{x}10^{5}}$ ---------- 41=_____

DrJ-42. $\frac{(-1.02\text{x}10^{6})}{(-4.21\text{x}10^{6})}\left[1 - e^{-(0.621)(0.674)}\right]$ ---------- 42=_____

DrJ-43. $-0.304 + (0.546)\mathrm{Ln}(0.886 - 0.813)$ ---------- 43=_____

DrJ-44. $(773 + 1270)^{1/3} + 1/\{(710)^{-0.451}\}$ ---------- 44=_____

DrJ-45.(deg) $\sin\left[90° \text{ x } \frac{(893)}{(1690)}\right] + \cos\{166° - 160°\}$ ---------- 45=_____

Page DrK-5

DrK-41. $10^{-\{(0.063 - 0.599)/(0.754 + 0.506)\}}$ ---------- 41=_____

DrK-42. $\frac{(1.68)}{(3.23)}\left[1 - e^{-(0.699)(0.888)}\right]$ ---------- 42=_____

DrK-43. $\frac{0.00938 - 0.037}{\mathrm{Log}(0.028 + 0.0125)}$ ---------- 43=_____

DrK-44. $(-9610 + 12700)^{-(0.392 + 0.226)}$ ---------- 44=_____

DrK-45.(deg) $\{(1.08\text{x}10^{-5})\sin(-85.1°)\} \text{ x } \{(-5.42\text{x}10^{-5})\cos(-99.6°)\}$ 45=_____

Page DrL-5

DrL-41. $(-0.589)(0.593)10^{\{-0.669/-0.232\}}$ ---------- 41=_____

DrL-42. $4.39\text{x}10^{-4}\ e^{0.201} + (3.41\text{x}10^{-4})\ e^{-0.986}$ ---------- 42=_____

DrL-43. $\frac{\mathrm{Ln}(190 + 319 - 165)}{(-612)}$ ---------- 43=_____

DrL-44. $(10.6)^{3} + (29.5 - 5.12)^{1.4}$ ---------- 44=_____

DrL-45.(deg) $\frac{\cos\{(37.4°)/(1.87)\}}{\sin\{61.5° - 128°\}}$ ---------- 45=_____

Page DrM-5

DrM-41. $10^{-\{(0.542 - 0.993)/(0.829 + 0.245)\}}$ ---------- 41=_____

DrM-42. $70900\ e^{0.415} + (60600)\ e^{-0.918}$ ---------- 42=_____

DrM-43. $-0.0666 + (0.421)\mathrm{Ln}(2.34 - 0.936)$ ---------- 43=_____

DrM-44. $(721 + 844)^{1/3} + 1/\{(462)^{-0.123}\}$ ---------- 44=_____

DrM-45.(deg) $\sin\left[90° \times \frac{(5.37\times10^{6})}{(1.50\times10^{7})}\right] + \cos\{130° - 62.2°\}$ ------ 45=_____

Page DrN-5

DrN-41. $(-0.118)(-0.946)10^{\{0.48/0.355\}}$ ---------- 41=_____

DrN-42. $9.8\ e^{0.628} + (9.13)\ e^{-0.849}$ ---------- 42=_____

DrN-43. $\frac{382 - 1010}{\mathrm{Log}(153 + 126)}$ ---------- 43=_____

DrN-44. $(-6.75\times10^{-7} + 9.58\times10^{-7})^{-(0.637 + 0.848)}$ ---------- 44=_____

DrN-45.(deg) $\{(-248)\sin(-54.3°)\} \times \{(-310)\cos(-63.6°)\}$ ---------- 45=_____

Page DrO-5

DrO-41. $\frac{10^{-(4.8 - 4.87)}}{539 + 487}$ ---------- 41=_____

DrO-42. $-7.50\times10^{-6}\ e^{0.841} + (-8.24\times10^{-7})\ e^{-0.78}$ ---------- 42=_____

DrO-43. $\frac{\mathrm{Ln}(0.0478 + 0.0666 - 0.0169)}{(0.0762)}$ ---------- 43=_____

DrO-44. $(2.48)^{3} + (27.5 - 11.5)^{2.13}$ ---------- 44=_____

DrO-45.(deg) $\frac{\cos\{(22°)/(8.86)\}}{\sin\{136° - 160°\}}$ ---------- 45=_____

Page DrP-5

DrP-41. $10^{-\{(0.177 - 0.234)/(0.941 + 0.172)\}}$ ---------- 41=_____

DrP-42. $-480\ e^{0.155} + (-90)\ e^{-0.712}$ ---------- 42=_____

DrP-43. $\frac{(-0.0573)\mathrm{Log}(0.0883 - 0.014)}{(-0.078)}$ ---------- 43=_____

DrP-44. $(7.78)^{3} + (26.8 - 5.35)^{1.47}$ ---------- 44=_____

DrP-45.(deg) $\sin\left[90° \times \frac{(1.81\times10^{-4})}{(9.66\times10^{-4})}\right] + \cos\{93.5° - 83.8°\}$ ---- 45=_____

Page DrQ-5

DrQ-41. $(-4.13)(-2.56)10^{\{-7.97\,/\,\pi\}}$ ---------- 41=_____

DrQ-42. $\dfrac{e^{+0.265} + e^{-0.368}}{(-0.0214 + 0.0509)}$ ---------- 42=_____

DrQ-43. $(-669)\mathrm{Log}\ \{(926)(0.616 + 1/0.499)\}$ ---------- 43=_____

DrQ-44. $(652 + 740)^{1/3} + 1/\{(372)^{-0.136}\}$ ---------- 44=_____

DrQ-45.(deg) $\{(-60.4)\sin(-23.5°)\} \times \{(-7.75)\cos(-27.5°)\}$ ---------- 45=_____

Page DrR-5

DrR-41. $10^{-\{(0.186 - 0.627)/(0.116 + 0.0821)\}}$ ---------- 41=_____

DrR-42. $\dfrac{e^{+0.343} + e^{-0.582}}{(1.80\times10^{-6} + 2.67\times10^{-6})}$ ---------- 42=_____

DrR-43. $(-765 - 911)\ \mathrm{Ln}\{(-683)(-137)\}$ ---------- 43=_____

DrR-44. $(0.00374 + 0.00589)^{-(0.663 + 0.778)}$ ---------- 44=_____

DrR-45.(deg) $\dfrac{\cos\{(87.6°)/(6.86)\}}{\sin\{49.2° - 150°\}}$ ---------- 45=_____

Page DrS-5

DrS-41. $(579)(2050)10^{\{3510/1320\}}$ ---------- 41=_____

DrS-42. $\dfrac{e^{+0.421} + e^{-0.795}}{(5.75 + 1.42)}$ ---------- 42=_____

DrS-43. $\dfrac{(-0.0861)\mathrm{Log}(0.0988 - 0.0277)}{(0.0595)}$ ---------- 43=_____

DrS-44. $(13.5)^{3} + (24.7 - 11)^{2.21}$ ---------- 44=_____

DrS-45.(deg) $\sin\left[90° \times \dfrac{(-0.175)}{(0.191)}\right] + \cos\{57.4° - 23.7°\}$ ------- 45=_____

Page DrT-5

DrT-41. $\dfrac{10^{-(0.892 - 1.21)}}{-0.00741 + 0.00142}$ ---------- 41=_____

DrT-42. $\dfrac{e^{+0.499} + e^{-0.109}}{(9.69\times10^{-4} + 4.27\times10^{-4})}$ ---------- 42=_____

DrT-43. $(-0.0957)\mathrm{Log}\ \{(0.0945)(1.11 + 1/0.622)\}$ ---------- 43=_____

DrT-44. $(600 + 2650)^{1/3} + 1/\{(176)^{-0.258}\}$ ---------- 44=_____

DrT-45.(deg) $\{(-9.60\times10^{-5})\sin(-155°)\} \times \{(1.55\times10^{-5})\cos(-153°)\}$ 45=_____

Page DrU-5

DrU-41. $10^{-\{(0.389 - 0.768)/(0.228 + 0.136)\}}$ ---------- 41=_____

DrU-42. $\frac{(8.72\times10^{-4})}{(-2.31\times10^{-4})}\left[1 - e^{-(0.577)(0.322)}\right]$ ---------- 42=_____

DrU-43. $(94.7 - 98.4)\ \mathrm{Ln}\{(-81)(-48.9)\}$ ---------- 43=_____

DrU-44. $(6.60\times10^{-7} + 1.13\times10^{-6})^{-(0.908 + 0.5)}$ ---------- 44=_____

DrU-45.(deg) $\frac{\cos\{(72.2°)/(4.85)\}}{\sin\{124° - 177°\}}$ ---------- 45=_____

Page DrV-5

DrV-41. $\frac{10^{-(1.42 - 5.15)}}{-92.5 + 24.6}$ ---------- 41=_____

DrV-42. $\frac{(-85.8)}{(51.4)}\left[1 - e^{-(0.654)(0.535)}\right]$ ---------- 42=_____

DrV-43. $\frac{(85.1)\mathrm{Log}(85.9 - 34.6)}{(-3.07)}$ ---------- 43=_____

DrV-44. $(4.97)^{3} + (22.6 - 15.6)^{2.94}$ ---------- 44=_____

DrV-45.(deg) $\sin\left[90° \times \frac{(-531)}{(712)}\right] + \cos\{21.3° - 17.7°\}$ ---------- 45=_____

Page DrW-5

DrW-41. $10^{-\{(0.248 - 0.262)/(0.303 + 0.0663)\}}$ ---------- 41=_____

DrW-42. $\frac{(-5.87\times10^{-6})}{(-7.42\times10^{-6})}\left[1 - e^{-(0.732)(0.749)}\right]$ ---------- 42=_____

DrW-43. $(75.5)\mathrm{Log}\{(81.6)(0.228 + 1/0.744)\}$ ---------- 43=_____

DrW-44. $(548 + 1160)^{1/3} + 1/\{(502)^{-0.38}\}$ ---------- 44=_____

DrW-45.(deg) $\{(6.84\times10^{-6})\sin(-124°)\} \times \{(3.87\times10^{-6})\cos(-117°)\} -$ 45=_____

Page DrX-5

DrX-41. $(2.34\times10^{5})(-6.44\times10^{5})10^{\{2.23\times10^{5}/2.03\times10^{5}\}}$ ---------- 41=_____

DrX-42. $\frac{(-0.0317)}{(2.78\times10^{-4})}\left[1 - e^{-(0.81)(0.962)}\right]$ ---------- 42=_____

DrX-43. $(0.659 - 3.56)\ \mathrm{Ln}\{(-0.938)(-0.886)\}$ ---------- 43=_____

DrX-44. $(9470 + 17800)^{-(0.253 + 0.223)}$ ---------- 44=_____

DrX-45.(deg) $\frac{\cos\{(56.8°)/(2.85)\}}{\sin\{37° - 210°\}}$ ---------- 45=_____

Page DrY-5

DrY-41. $\dfrac{10^{-(3.19-6.56)}}{\pi + 0.764}$ ---------- 41=_____

DrY-42. $-465\ e^{0.276} + (-413)\ e^{-0.994}$ ---------- 42=_____

DrY-43. $\dfrac{0.563 - \pi}{\mathrm{Log}(0.353 + 0.0439)}$ ---------- 43=_____

DrY-44. $(0.576)^{3} + (20.5 - 19.2)^{0.971}$ ---------- 44=_____

DrY-45.(deg) $\sin\left[90° \times \dfrac{(-8.87\times10^{6})}{(1.54\times10^{7})}\right] + \cos\{147° - 50.7°\}$ ----- 45=_____

Page DrZ-5

DrZ-41. $(7.05\times10^{-6})(-1.84\times10^{-6})10^{\{-6.28\times10^{-6}/-2.53\times10^{-6}\}}$ --- 41=_____

DrZ-42. $2.24\times10^{-6}\ e^{0.489} + (2.16\times10^{-6})\ e^{-0.926}$ ---------- 42=_____

DrZ-43. $\dfrac{\mathrm{Ln}(46.7 + 53.9 - 25.8)}{(-19.8)}$ ---------- 43=_____

DrZ-44. $(496 + 693)^{1/3} + 1/\{(317)^{-0.0526}\}$ ---------- 44=_____

DrZ-45.(deg) $\{(328)\sin(-93.2°)\} \times \{(620)\cos(-81.2°)\}$ ---------- 45=_____

Page DrA-6

DrA-51. $\dfrac{(-33.2)10^{-(\pi-1.66)}}{84.9 + 23.7}$ ---------- 51=_____

DrA-52. $\dfrac{1 + e^{+\{0.61+(1)\,(2.94)\}}}{(-4.10\text{x}10^{-5})\,(\pi - e^{(-0.228)})}$ ---------- 52=_____

DrA-53. $\dfrac{\text{Ln}(4.05\text{x}10^{-4} + 0.00101)}{2.58\text{x}10^{-5}} + \dfrac{\text{Ln}(8.51\text{x}10^{-4})}{2.34\text{x}10^{-4} - 1.99\text{x}10^{-4}}$ ------- 53=_____

DrA-54. $\dfrac{1}{(0.463)^{(-0.231)}} + (0.125 + 0.786)^{(0.825 - 0.133)}$ -------- 54=_____

DrA-55.(rad) $\arctan\left[\dfrac{(9830)(0.333)}{(7.75)(61.1)}\right] + (0.1)(2.71)$ ---------- 55=_____

Page DrB-6

DrB-51. $10^{+(0.877)} + 10^{-(0.84)} + \left[10^{(0.541/0.993)} - 10^{(0.36)}\right]^{1/2}$ 51=_____

DrB-52. $\dfrac{1 + e^{+\{0.293 + (0.956)(2.78)\}}}{(3.44\text{x}10^{-6})(2.89 - e^{(-0.434)})}$ ---------- 52=_____

DrB-53. $\dfrac{\text{Ln}(0.837 + 4.87)}{-0.116} + \dfrac{\text{Ln}(0.39)}{0.392 - 0.167}$ ---------- 53=_____

DrB-54. $\dfrac{1}{(0.477)^{(-0.116)}} + (0.658 + 0.924)^{(0.65 - 0.526)}$ --------- 54=_____

DrB-55.(rad) $\dfrac{\arctan\{8.94 + (6.08)(0.89)\}}{\arcsin\{(0.0335 + 0.00922)/0.0782\}}$ ---------- 55=_____

Page DrC-6

DrC-51. $\dfrac{10^{(0.647)}\ \text{x}\ 10^{-(0.878)} + 0.803}{10^{(0.638 + 0.782)}}$ ---------- 51=_____

DrC-52. $\dfrac{(5.75\text{x}10^{-7} - 5.04\text{x}10^{-7})\ e^{(0.913)(1.9)}}{e^{-(8.7 - 5.57)}}$ ---------- 52=_____

DrC-53. $\dfrac{\text{Ln}(0.796 + 0.945)}{0.274} + \dfrac{\text{Ln}(3.7)}{9.83 - 8.86}$ ---------- 53=_____

DrC-54. $\dfrac{(-433 + 1490)^{-0.163}}{(476)^{-(0.474 + 0.919)}}$ ---------- 54=_____

DrC-55.(rad) $\arctan\left[\dfrac{(2280)(0.217)}{(4.42)(27)}\right] + (0.994)(2.05)$ ---------- 55=_____

Page DrD-6

DrD-51. $10^{+(0.417)} + 10^{-(0.915)} + \left[10^{(0.166/0.852)} - 10^{(0.176)}\right]^{1/2}$ 51=_____

DrD-52. $\dfrac{(9.69\text{x}10^{-6} - 5.42\text{x}10^{-6})\, e^{(0.87)(1.99)}}{e^{-(5.51 - 4.67)}}$ ---------- 52=_____

DrD-53. $\dfrac{\text{Ln}(6780 + 11000)}{305} + \dfrac{\text{Ln}(8710)}{3580 - 1710}$ ---------- 53=_____

DrD-54. $\dfrac{(8.24)^{0.302} - (2.99)^{-0.412}}{42.4 + \pi}$ ---------- 54=_____

DrD-55.(rad) $\dfrac{\arctan\{2.01 + (2.75)(0.55)\}}{\arcsin\{(34900 + 5560)/74900\}}$ ---------- 55=_____

Page DrE-6

DrE-51. $\dfrac{10^{(0.187)} \text{ x } 10^{-(0.953)} + 0.428}{10^{(0.22 + 0.125)}}$ ---------- 51=_____

DrE-52. $\dfrac{(-6.36\text{x}10^{5} - 1.54\text{x}10^{5})e^{(0.827)\,(\pi)}}{e^{-(2.32-0.354)}}$ ---------- 52=_____

DrE-53. $\dfrac{\text{Ln}(5.65\text{x}10^{-5} + 1.47\text{x}10^{-4})}{5.11\text{x}10^{-7}} + \dfrac{\text{Ln}(1.12\text{x}10^{-5})}{2.67\text{x}10^{-5} - 2.55\text{x}10^{-5}}$ ----- 53=_____

DrE-54. $\dfrac{1}{(0.519)^{(-0.674)}} + (0.457 + 0.44)^{(0.124 - 0.805)}$ --------- 54=_____

DrE-55.(rad) $\arctan\left[\dfrac{(3730)(0.102)}{(1.08)(82.9)}\right] + (0.987)(1.65)$ ---------- 55=_____

Page DrF-6

DrF-51. $\dfrac{(-1.56\text{x}10^{-7})\ 10^{-(8.58 - 8.49)}}{-8.93\text{x}10^{-7} + 6.16\text{x}10^{-7}}$ ---------- 51=_____

DrF-52. $\dfrac{560 + e^{(4.12 + 3.23)}}{1.2 - e^{-(0.437 - 0.813)}}$ ---------- 52=_____

DrF-53. $\dfrac{\text{Ln}(0.0193 + 0.124)}{0.0276} + \dfrac{\text{Ln}(0.0648)}{0.0893 - 0.0471}$ ---------- 53=_____

DrF-54. $\dfrac{1}{(0.533)^{(-0.56)}} + (0.991 + 0.579)^{(0.849 - 0.298)}$ --------- 54=_____

DrF-55.(rad) $\dfrac{\arcsin\{(8.53)(-8.67)/(-88)\}}{15 + (-9.1)(-7.88)}$ ---------- 55=_____

Page DrG-6

DrG-51. $10^{+(0.628)} + 10^{-(0.127)} + \left[10^{(0.953/0.641)} - 10^{(0.547)}\right]^{1/2}$ 51=_____

DrG-52. $\dfrac{46.7 + e^{(2.54 + 1.88)}}{0.649 - e^{-(0.457 - 0.494)}}$ ---------- 52=_____

DrG-53. $\dfrac{\mathrm{Ln}(9.5 + 11.5)}{\pi} + \dfrac{\mathrm{Ln}(5.93)}{4.82 - 0.499}$ ---------- 53=_____

DrG-54. $\dfrac{(9.78 + 15.7)^{-0.718}}{(1.66)^{-(0.673 + 0.691)}}$ ---------- 54=_____

DrG-55.(rad) $\arctan\left[\dfrac{(5180)(0.886)}{(6.74)(48.8)}\right] + (0.98)(1.38)$ ---------- 55=_____

Page DrH-6

DrH-51. $\dfrac{(3.15)\ 10^{-(3.98 - 0.656)}}{0.103 + 0.0324}$ ---------- 51=_____

DrH-52. $\dfrac{3.88 + e^{(0.951 + 0.664)}}{0.318 - e^{-(0.476 - 0.175)}}$ ---------- 52=_____

DrH-53. $\dfrac{\mathrm{Ln}(29.2 + 48.9)}{7.43} + \dfrac{\mathrm{Ln}(16.6)}{14.3 - 8.29}$ ---------- 53=_____

DrH-54. $\dfrac{(2.57)^{0.856} - (4.98)^{-0.184}}{-12.7 + 2.12}$ ---------- 54=_____

DrH-55.(rad) $\dfrac{\arcsin\left\{(-821)(-28600)/(4.64\text{x}10^{7})\right\}}{4.74\text{x}10^{8} + (-28400)(-21800)}$ ---------- 55=_____

Page DrI-6

DrI-51. $10^{+(0.168)} + 10^{-(0.202)} + \left[10^{(0.577/0.5)} - 10^{(0.706)}\right]^{1/2}$ 51=_____

DrI-52. $\dfrac{1 + e^{+\{0.773+(0.654)\ (\pi)\}}}{(-377)\ (7.56 - e^{(-0.977)})}$ ---------- 52=_____

DrI-53. $\dfrac{\mathrm{Ln}(4.65\text{x}10^{-4} + 0.00126)}{1.67\text{x}10^{-4}} + \dfrac{\mathrm{Ln}(9.26\text{x}10^{-4})}{7.68\text{x}10^{-4} - 1.19\text{x}10^{-4}}$ ------- 53=_____

DrI-54. $\dfrac{(7.9)^{0.995} - (3.23)^{-0.577}}{-26.5 + 4.42}$ ---------- 54=_____

DrI-55.(rad) $\arctan\left[\dfrac{(6630)(0.77)}{(3.41)(14.8)}\right] + (0.974)(1.18)$ ---------- 55=_____

Page DrJ-6

DrJ-51. $\dfrac{10^{(0.838)} \times 10^{-(0.24)} + 0.84}{10^{(9.22 + 0.733)}}$ ---------- 51=_____

DrJ-52. $\dfrac{1 + e^{+\{0.456 + (0.611)(1.94)\}}}{(37.7)(4.37 - e^{(-0.283)})}$ ---------- 52=_____

DrJ-53. $\dfrac{\mathrm{Ln}(7.78\times10^{-4} + 0.00557)}{9.39\times10^{-5}} + \dfrac{\mathrm{Ln}(3.15\times10^{-4})}{6.06\times10^{-4} - 3.82\times10^{-4}}$ ------- 53=_____

DrJ-54. $\dfrac{1}{(0.59)^{(-0.103)}} + (0.423 + 0.234)^{(0.148 - 0.971)}$ --------- 54=_____

DrJ-55.(rad) $\dfrac{\arcsin\{(-0.869)(0.294)/(-1.47)\}}{0.0516 + (0.343)(0.352)}$ ---------- 55=_____

Page DrK-6

DrK-51. $\dfrac{(0.0207)10^{-(\pi-1.69)}}{-0.635 + 0.128}$ ---------- 51=_____

DrK-52. $\dfrac{1 + e^{+\{0.139 + (0.568)(1.87)\}}}{(-8.69)(1.18 - e^{(-0.489)})}$ ---------- 52=_____

DrK-53. $\dfrac{\mathrm{Ln}(\pi + 2.48)}{0.0922} + \dfrac{\mathrm{Ln}(44.5)}{1.9 - 0.392}$ ---------- 53=_____

DrK-54. $\dfrac{(3890 + 4060)^{-0.372}}{(1440)^{-(0.872 + 0.464)}}$ ---------- 54=_____

DrK-55.(rad) $\dfrac{\arctan\{7.94 + (9.07)(0.707)\}}{\arcsin\{(6.88 + 4.51)/11.8\}}$ ---------- 55=_____

Page DrL-6

DrL-51. $\dfrac{10^{(0.378)}\times10^{-(0.315)} + 0.464}{10^{(\pi+0.977)}}$ ---------- 51=_____

DrL-52. $\dfrac{(1.25 - 0.899)\, e^{(0.525)(2.77)}}{e^{-(6.99 - 4.86)}}$ ---------- 52=_____

DrL-53. $\dfrac{\mathrm{Ln}(7.37 + 12.7)}{1.6} + \dfrac{\mathrm{Ln}(7.96)}{6.44 - 4.39}$ ---------- 53=_____

DrL-54. $\dfrac{(5.9)^{0.511} - (6.97)^{-0.857}}{-0.00678 + 0.00113}$ ---------- 54=_____

DrL-55.(rad) $\dfrac{\arcsin\{(0.0269)(0.0875)/(0.00319)\}}{0.00882 + (0.0969)(0.0923)}$ ---------- 55=_____

Page DrM-6

DrM-51. $\dfrac{(4.91\text{x}10^{-6})\ 10^{-(1.48\ -\ 0.522)}}{2.68\text{x}10^{-6}\ +\ 1.95\text{x}10^{-6}}$ ---------- 51=_____

DrM-52. $\dfrac{(0.519\ -\ 0.21)\ e^{(0.482)(2.86)}}{e^{-(3.8\ -\ 3.42)}}$ ---------- 52=_____

DrM-53. $\dfrac{\text{Ln}(0.00505\ +\ 0.0143)}{0.00251}\ +\ \dfrac{\text{Ln}(3.67\text{x}10^{-4})}{0.0073\ -\ 0.00188}$ ---------- 53=_____

DrM-54. $\dfrac{(2.23)^{0.65}\ -\ (5.22)^{-0.35}}{-81600\ +\ 13600}$ ---------- 54=_____

DrM-55.(rad) $\dfrac{\arctan\{2.21\ +\ (5.73)(0.366)\}}{\arcsin\{(9.29\text{x}10^{-4}\ +\ 5.01\text{x}10^{-4})/0.00149\}}$ ---------- 55=_____

Page DrN-6

DrN-51. $10^{+(0.818)}\ +\ 10^{-(0.389)}\ +\ \left[\,10^{(0.989/0.149)}\ -\ 10^{(2.13)}\,\right]^{1/2}$ 51=_____

DrN-52. $\dfrac{(0.0913\ -\ 0.0902)e^{(0.438)\ (2.96)}}{e^{-(9.61-\pi)}}$ ---------- 52=_____

DrN-53. $\dfrac{\text{Ln}(2.52\text{x}10^{-5}\ +\ 2.04\text{x}10^{-4})}{1.02\text{x}10^{-6}}\ +\ \dfrac{\text{Ln}(7.23\text{x}10^{-5})}{1.05\text{x}10^{-5}\ -\ 7.71\text{x}10^{-6}}$ ----- 53=_____

DrN-54. $\dfrac{1}{(0.646)^{(-0.547)}}\ +\ (0.756\ +\ 0.788)^{(0.346\ -\ 0.743)}$ -------- 54=_____

DrN-55.(rad) $\dfrac{\arcsin\{(-0.00592)(-0.00544)/(7.92\text{x}10^{-5})\}}{1.32\text{x}10^{-5}\ +\ (-0.00404)(-0.00507)}$ ---------- 55=_____

Page DrO-6

DrO-51. $\dfrac{10^{(0.589)}\ \text{x}\ 10^{-(0.427)}\ +\ 0.351}{10^{(1.48\ +\ 0.442)}}$ ---------- 51=_____

DrO-52. $\dfrac{44.5\ +\ e^{(3.35\ +\ 1.33)}}{0.886\ -\ e^{-(0.612\ -\ 0.642)}}$ ---------- 52=_____

DrO-53. $\dfrac{\text{Ln}(9900\ +\ 12500)}{3360}\ +\ \dfrac{\text{Ln}(5180)}{5200\ -\ 1600}$ ---------- 53=_____

DrO-54. $\dfrac{(-2.01\text{x}10^{-5}\ +\ 5.15\text{x}10^{-5})^{-0.927}}{(4.54\text{x}10^{-5})^{-(0.171\ +\ 0.236)}}$ ---------- 54=_____

DrO-55.(rad) $\dfrac{\arctan\{11.3\ +\ (2.4)(0.926)\}}{\arcsin\{(0.547\ +\ 0.231)/0.815\}}$ ---------- 55=_____

Page DrP-6

DrP-51. $10^{+(0.359)} + 10^{-(0.464)} + \left[10^{(0.614/0.908)} - 10^{(0.381)}\right]^{1/2}$ 51=_____

DrP-52. $\dfrac{6.76 + e^{(1.77 + 0.622)}}{0.488 - e^{-(0.631 - 0.323)}}$ ---------- 52=_____

DrP-53. $\dfrac{\mathrm{Ln}(2.33 + 4.12)}{1.11} + \dfrac{\mathrm{Ln}(2.41)}{8.55 - 6.7}$ ---------- 53=_____

DrP-54. $\dfrac{(9.23)^{0.166} - (8.96)^{-0.629}}{77100 + 12800}$ ---------- 54=_____

DrP-55.(rad) $\arctan\left[\dfrac{(7190)(0.366)}{(9.73)(30.5)}\right] + (0.501)(2.74)$ ---------- 55=_____

Page DrQ-6

DrQ-51. $\dfrac{10^{(0.129)} \times 10^{-(0.502)} + 0.876}{10^{(0.506 + 0.685)}}$ ---------- 51=_____

DrQ-52. $\dfrac{379 + e^{(4.68 + 1.45)}}{0.603 - e^{-(0.65 - 0.904)}}$ ---------- 52=_____

DrQ-53. $\dfrac{\mathrm{Ln}(52.5 + 156)}{11.4} + \dfrac{\mathrm{Ln}(99.9)}{22.9 - 8.25}$ ---------- 53=_____

DrQ-54. $\dfrac{(5.56)^{0.304} - (7.21)^{-0.122}}{0.00633 + 0.00105}$ ---------- 54=_____

DrQ-55.(rad) $\dfrac{\arctan\{13.8 + (8.06)(0.585)\}}{\arcsin\{(1640 + 505)/2260\}}$ ---------- 55=_____

Page DrR-6

DrR-51. $\dfrac{(66.7)\ 10^{-(7.99 - 4.31)}}{52.6 + 12.5}$ ---------- 51=_____

DrR-52. $\dfrac{6.67 + e^{(\pi + 0.823)}}{0.251 - e^{-(0.67 - 0.584)}}$ ---------- 52=_____

DrR-53. $\dfrac{\mathrm{Ln}(7.18\times10^{-4} + 0.00669)}{6.04\times10^{-6}} + \dfrac{\mathrm{Ln}(2.40\times10^{-4})}{3.96\times10^{-4} - 3.31\times10^{-4}}$ ------- 53=_____

DrR-54. $\dfrac{1}{(0.703)^{(-0.99)}} + (0.189 + 0.443)^{(0.545 - 0.515)}$ --------- 54=_____

DrR-55.(rad) $\arctan\left[\dfrac{(8640)(0.25)}{(6.39)(86.4)}\right] + (0.494)(2.06)$ ---------- 55=_____

Page DrS-6

DrS-51. $10^{+(0.569)} + 10^{-(0.577)} + \left[10^{(0.501/0.697)} - 10^{(0.667)} \right]^{1/2}$ 51=_____

DrS-52. $\dfrac{1 + e^{+\{0.302 + (0.223)(1.45)\}}}{(-8.36\text{x}10^{6})(2.65 - e^{(-0.339)})}$ ---------- 52=_____

DrS-53. $\dfrac{\text{Ln}(3940 + 5060)}{26300} + \dfrac{\text{Ln}(52000)}{97900 - 40200}$ ---------- 53=_____

DrS-54. $\dfrac{(-0.079 + 0.109)^{-0.582}}{(0.0764)^{-(0.37 + 0.908)}}$ ---------- 54=_____

DrS-55.(rad) $\dfrac{\arctan\{2.37 + (4.72)(0.244)\}}{\arcsin\{(2190 + 420)/2770\}}$ ---------- 55=_____

Page DrT-6

DrT-51. $\dfrac{(-8.62\text{x}10^{6})10^{-(3.39-\pi)}}{-5.71\text{x}10^{6} + 4.36\text{x}10^{6}}$ ---------- 51=_____

DrT-52. $\dfrac{1 + e^{+\{0.885 + (0.179)(1.41)\}}}{(-8.17\text{x}10^{6})(8.46 - e^{(-0.545)})}$ ---------- 52=_____

DrT-53. $\dfrac{\text{Ln}(79.7 + 145)}{4.72} + \dfrac{\text{Ln}(72.1)}{35.4 - 31.4}$ ---------- 53=_____

DrT-54. $\dfrac{(56.3 + 158)^{-0.72}}{(84.1)^{-(0.195 + 0.402)}}$ ---------- 54=_____

DrT-55.(rad) $\arctan\left[\dfrac{(1090)(0.134)}{(3.05)(52.4)}\right] + (0.488)(1.66)$ ---------- 55=_____

Page DrU-6

DrU-51. $10^{+(0.109)} + 10^{-(0.652)} + \left[10^{(0.126/0.557)} - 10^{(0.0612)} \right]^{1/2}$ 51=_____

DrU-52. $\dfrac{1 + e^{+\{0.568 + (0.136)(1.37)\}}}{(6.72\text{x}10^{6})(5.27 - e^{(-0.751)})}$ ---------- 52=_____

DrU-53. $\dfrac{\text{Ln}(4.46 + 13.9)}{-1.85} + \dfrac{\text{Ln}(0.384)}{2.72 - 1.26}$ ---------- 53=_____

DrU-54. $\dfrac{(8.88)^{0.859} - (9.19)^{-0.795}}{0.817 + 0.136}$ ---------- 54=_____

DrU-55.(rad) $\dfrac{\arcsin\{(-60.6)(-51)/(22300)\}}{-3240 + (78.9)(-51.2)}$ ---------- 55=_____

Page DrV-6

DrV-51. $\dfrac{10^{(0.779)} \times 10^{-(0.689)} + 0.388}{10^{(2.53 + 0.393)}}$ ---------- 51=_____

DrV-52. $\dfrac{(68500 - 17200)e^{(0.993)(3.74)}}{e^{-(\pi - 1.99)}}$ ---------- 52=_____

DrV-53. $\dfrac{\mathrm{Ln}(0.0312 + 0.0314)}{0.0049} + \dfrac{\mathrm{Ln}(0.0798)}{0.0897 - 0.0841}$ ---------- 53=_____

DrV-54. $\dfrac{1}{(0.759)^{(-0.533)}} + (0.522 + 0.998)^{(0.744 - 0.288)}$ -------- 54=_____

DrV-55.(rad) $\arctan\left[\dfrac{(2540)(0.919)}{(8.72)(18.3)}\right] + (0.481)(1.38)$ ---------- 55=_____

Page DrW-6

DrW-51. $\dfrac{(84400)\ 10^{-(5.49 - 3.99)}}{78400 + 51000}$ ---------- 51=_____

DrW-52. $\dfrac{(46300 - 38600)e^{(0.95)(3.83)}}{e^{-(7.89 - \pi)}}$ ---------- 52=_____

DrW-53. $\dfrac{\mathrm{Ln}(9.31\times10^{-5} + 1.22\times10^{-4})}{5.65\times10^{-6}} + \dfrac{\mathrm{Ln}(4.43\times10^{-5})}{4.78\times10^{-5} - 2.45\times10^{-5}}$ ----- 53=_____

DrW-54. $\dfrac{(6.21 + 40.1)^{-0.236}}{(9.27)^{-(0.569 + 0.681)}}$ ---------- 54=_____

DrW-55.(rad) $\dfrac{\arcsin\left\{(5.33\times10^{-5})(7.09\times10^{-6})/(5.36\times10^{-10})\right\}}{-1.57\times10^{-10} + (-5.85\times10^{-5})(5.82\times10^{-6})}$ ------- 55=_____

Page DrX-6

DrX-51. $\dfrac{10^{(0.319)} \times 10^{-(0.764)} + 0.913}{10^{(\pi + 0.637)}}$ ---------- 51=_____

DrX-52. $\dfrac{(85700 - 44300)\ e^{(0.907)(3.93)}}{e^{-(4.7 - 2.21)}}$ ---------- 52=_____

DrX-53. $\dfrac{\mathrm{Ln}(1730 + 3250)}{11.5} + \dfrac{\mathrm{Ln}(3170)}{1470 - 1460}$ ---------- 53=_____

DrX-54. $\dfrac{(-0.0264 + 0.0384)^{-0.375}}{(0.849)^{-(0.394 + 0.174)}}$ ---------- 54=_____

DrX-55.(rad) $\arctan\left[\dfrac{(3990)(0.803)}{(5.38)(74.2)}\right] + (0.474)(1.19)$ ---------- 55=_____

Page DrY-6

DrY-51. $\dfrac{(-686)\ 10^{-(9.9\ -\ 7.93)}}{-313\ +\ 86.1}$ ---------- 51=_____

DrY-52. $\dfrac{4.34\ +\ e^{(0.997\ +\ 0.861)}}{0.365\ -\ e^{-(0.805\ -\ 0.151)}}$ ---------- 52=_____

DrY-53. $\dfrac{\mathrm{Ln}(5.84\ +\ 19.2)}{0.783}\ +\ \dfrac{\mathrm{Ln}(9.24)}{7.73\ -\ 4.36}$ ---------- 53=_____

DrY-54. $\dfrac{(3.21)^{0.514}\ -\ (2.18)^{-0.567}}{-46.9\ +\ 7.82}$ ---------- 54=_____

DrY-55.(rad) $\dfrac{\arcsin\{(-3.28)(6.52)/(-57.7)\}}{0.318\ +\ (0.416)(6.28)}$ ---------- 55=_____

Page DrZ-6

DrZ-51. $10^{+(0.76)}\ +\ 10^{-(0.839)}\ +\ \left[\,10^{(0.537/0.205)}\ -\ 10^{(2.31)}\,\right]^{1/2}$ 51=_____

DrZ-52. $\dfrac{1090\ +\ e^{(3.91\ +\ 3.21)}}{0.463\ -\ e^{-(0.825\ -\ 0.732)}}$ ---------- 52=_____

DrZ-53. $\dfrac{\mathrm{Ln}(0.659\ +\ 0.675)}{-0.0452}\ +\ \dfrac{\mathrm{Ln}(0.165)}{0.602\ -\ 0.0844}$ ---------- 53=_____

DrZ-54. $\dfrac{1}{(0.815)^{(-0.977)}}\ +\ (0.854\ +\ 0.652)^{(0.943\ -\ 0.96)}$ ---------- 54=_____

DrZ-55.(rad) $\dfrac{\arctan\{1.51\ +\ (2.05)(0.401)\}}{\arcsin\{(0.558\ +\ 0.384)/2.01\}}$ ---------- 55=_____

Page DrA-7

DrA-61. $\text{Log}(4.87) + \text{Log}(2.55) + \text{Log}(2.57) + \text{Log}\left[\frac{(8.97)}{(2.55)}\right]$ --------- 61=_____

DrA-62. (rad) $\frac{\sin(0.969)}{\cos(0.969)}\sqrt{1 - \{\sin(0.425 \times 1.6)\}^2}$ ---------- 62=_____

DrA-63. (rad) $(8.67)\left[\frac{\cos(-4.07)}{(-4.07)} + \frac{\cos(3.57)}{(3.57)}\right]$ ---------- 63=_____

DrA-64. $-\frac{1}{(8.69)} + \frac{1}{3(8.69)^3} - \frac{1}{5(8.69)^5} + \frac{1}{7(8.69)^7}$ ----- 64=_____

DrA-65. $\frac{0.692}{\sqrt{0.9}}\ \text{Ln}\left[\frac{\sqrt{(0.238)^2 + (0.00766)} + \sqrt{0.0084}}{\sqrt{7.72} + (91.8)(0.00965)}\right]$ ---------- 65=_____

Page DrB-7

DrB-61. $\frac{(10^{7.48})(10^{4.85})(10^{0.972})}{10\{(6.52)(0.889)\}}$ ---------- 61=_____

DrB-62. (rad) $\cos(2.25 - 0.242) - \cos(2.25 + 0.242)$ ---------- 62=_____

DrB-63. (rad) $\frac{98.2}{6(-15.2)}\{(-55.4) + (-38.8)\sin(-7.31)\}^5$ ---------- 63=_____

DrB-64. $\frac{1}{(0.579)} + \frac{1}{3(0.579)^3} + \frac{1}{5(0.579)^5} + \frac{1}{7(0.579)^7}$ ---- 64=_____

DrB-65. $\frac{1}{\sqrt{(54.8)^2 - (1830)}}\ \text{Ln}\left\{\frac{(102) - \sqrt{(54.8)^2 - (1830)}}{(102) + \sqrt{(54.8)^2 - (1830)}}\right\}$ --- 65=_____

Page DrC-7

DrC-61. $\frac{\{e^{0.25} + e^{-0.25}\}^2}{\sqrt{e^{(89.2)(0.221)} \times \left(1/e^{(2.19)}\right)}}$ ---------- 61=_____

DrC-62. (rad) $\sin(4.81)\cos(4.14) - \cos(4.81)\sin(4.14)$ ---------- 62=_____

DrC-63. (deg) $\sqrt{1 + \left[\frac{\cos(85.9°)}{\sin(85.9°)}\right]^2} \times \frac{\cos(-12.9°)}{\sin(-12.9°)}$ ---------- 63=_____

DrC-64. $(0.289) - \frac{(0.289)^2}{2} + \frac{(0.289)^3}{3} - \frac{(0.289)^4}{4}$ ---------- 64=_____

DrC-65. $\frac{1}{\sqrt{(18.4)^2 - (101)}}\ \text{Ln}\left\{\frac{(25.9) - \sqrt{(18.4)^2 - (101)}}{(25.9) + \sqrt{(18.4)^2 - (101)}}\right\}$ ---- 65=_____

Page DrD-7

DrD-61. $\mathrm{Ln}\left[\frac{(7.81)(9.46)}{(12.5)}\right]^3 + \mathrm{Ln}\left[\frac{(12.5)}{(7.49)}\right]^3$ ---------- 61=_____

DrD-62. (rad) $\sin(5.13)\cos(2.24) - \cos(5.13)\sin(2.24)$ ---------- 62=_____

DrD-63. (deg) $\sin(-68.3°)\cos(87.6°) + \cos(-68.3°)\sin(87.6°)$ -------- 63=_____

DrD-64. $1 + \frac{(0.93)^4}{2} - \frac{(0.93)^6}{6} + \frac{(0.93)^8}{24} - \frac{(0.93)^{10}}{120}$ ---------- 64=_____

DrD-65. $\frac{1}{\sqrt{(72)^2 - (4620)}}\ \mathrm{Ln}\left\{\frac{(28) - \sqrt{(72)^2 - (4620)}}{(28) + \sqrt{(72)^2 - (4620)}}\right\}$ -------- 65=_____

Page DrE-7

DrE-61. $\frac{\sqrt{e^{-(0.69 + 0.476)}}}{\left\{e^{(0.98 - 0.354)}\right\}^2} \times \sqrt[3]{(0.407)^2}$ ---------- 61=_____

DrE-62. $(3.26)10^{\mathrm{Log}[(9.56)(0.887)]} + \{(7510)(0.926)\}^{1/2}$ -------- 62=_____

DrE-63. (rad) $(8.67)\left[\frac{\cos(-0.7)}{(-0.7)} + \frac{\cos(8.29)}{(8.29)}\right]$ ---------- 63=_____

DrE-64. $-\frac{1}{(6)} + \frac{1}{3(6)^3} - \frac{1}{5(6)^5} + \frac{1}{7(6)^7}$ ---------- 64=_____

DrE-65. (rad) $\frac{\arctan\left\{e^{-(0.205)(0.493)\sqrt{(18.1)/(69)}}\right\}}{(13.3)\sqrt{(46.4)(15.2)(31)}}$ ---------- 65=_____

Page DrF-7

DrF-61. $2\mathrm{Log}\sqrt{\frac{(3.11)(5.94)(3.85)}{(8.46)^3(6.31)^3}}$ ---------- 61=_____

DrF-62. $(92.8 - 89)^2 + (6.39 + 7.57)e^{\mathrm{Ln}(0.0361)}$ ---------- 62=_____

DrF-63. (rad) $\frac{1}{(356)(0.111)}\ \mathrm{Ln}\{(0.294) + (-0.08)\sin(3.11)\}$ ------ 63=_____

DrF-64. $\frac{1}{(0.31)} + \frac{1}{3(0.31)^3} + \frac{1}{5(0.31)^5} + \frac{1}{7(0.31)^7}$ -------- 64=_____

DrF-65. (rad) $\frac{\arctan\left\{e^{-(0.461)(0.624)\sqrt{(-0.651)/(-1.25)}}\right\}}{(4.41)\sqrt{(8.54)(3.46)(2.79)}}$ -------- 65=_____

Page DrG-7

DrG-61. $10^{9.24} \times \sqrt{\frac{(10^{3.64})(10^{0.484})}{(10^{-3.94})(10^{0.598})}}$ ---------- 61=_____

DrG-62. $(92.8 - 10.3)^2 + (3.22 + \pi)e^{\mathrm{Ln}(73.6)}$ ---------- 62=_____

DrG-63. (rad) $\frac{98.2}{6(59.4)}\{(-72.9) + (-44.8)\sin(-5.65)\}^5$ ---------- 63=_____

DrG-64. $(0.92) - \frac{(0.92)^2}{2} + \frac{(0.92)^3}{3} - \frac{(0.92)^4}{4}$ ---------- 64=_____

DrG-65. (rad) $\frac{(-0.422)(0.0388) - \mathrm{Ln}\{(0.0012) + (-5.28)e^{(-8.64)}\}}{\arcsin\{(0.0842)/(0.404 + 0.1)\}}$ - 65=_____

Page DrH-7

DrH-61. $\mathrm{Log}[(1.6)^{-1.33}] + (7.64)\mathrm{Log}[(1.6)^{(0.119)}]$ ---------- 61=_____

DrH-62. $e^{\mathrm{Ln}[(1.64)(90.5)]} + 10^{\mathrm{Log}[(0.758)(31.2)]}$ ---------- 62=_____

DrH-63. (deg) $\sin(-88.6°)\cos(172°) + \cos(-88.6°)\sin(172°)$ ---------- 63=_____

DrH-64. $1 + \frac{(0.74)^4}{2} - \frac{(0.74)^6}{6} + \frac{(0.74)^8}{24} - \frac{(0.74)^{10}}{120}$ ---------- 64=_____

DrH-65. (rad) $\frac{(-9.42)(2.62) - \mathrm{Ln}\{(0.0476) + (-1.64)e^{(-5.55)}\}}{\arcsin\{(2.43)/(7.23 + 15.6)\}}$ ---- 65=_____

Page DrI-7

DrI-61. $\mathrm{Ln}\left[\frac{(6.05)^2 - 2(6.05)(55.6) + (55.6)^2}{(2600)^2}\right]^2$ ---------- 61=_____

DrI-62. $e^{\mathrm{Ln}[(2.16)(58.8)]} + 10^{\mathrm{Log}[(0.714)(31.8)]}$ ---------- 62=_____

DrI-63. (deg) $\{\cos^2(32.9°) - \sin^2(32.9°)\} \times \frac{\tan(32.9°)}{1 - \tan^2(32.9°)}$ ----- 63=_____

DrI-64. $-\frac{1}{(3.4)} + \frac{1}{3(3.4)^3} - \frac{1}{5(3.4)^5} + \frac{1}{7(3.4)^7}$ --------- 64=_____

DrI-65. (rad) $\frac{(0.539)(-0.9) - \mathrm{Ln}\{(1.53) + (-7)e^{(-2.46)}\}}{\arcsin\{(0.0702)/(0.151 + 0.0279)\}}$ -------- 65=_____

Page DrJ-7

DrJ-61. $\dfrac{\sqrt{(6.3)^3}\ x\ \left\{e^{(3.27)(0.113)}\right\}^3}{\sqrt[3]{e^{(9.61)}\ x\ e^{(-9.25)}}}$ ---------- 61=_____

DrJ-62. (rad) $\dfrac{\sin(0.354)}{\cos(0.354)}\sqrt{1 - \{\sin(0.271\ x\ 6.71)\}^2}$ ---------- 62=_____

DrJ-63. (rad) $\dfrac{1}{(5590)(0.111)}\ \mathrm{Ln}\{(0.332) + (-0.247)\sin(3.3)\}$ ------ 63=_____

DrJ-64. $\dfrac{1}{(0.949)} + \dfrac{1}{3(0.949)^3} + \dfrac{1}{5(0.949)^5} + \dfrac{1}{7(0.949)^7}$ ---- 64=_____

DrJ-65. (rad) $e^{(5.86)}\left[\dfrac{(-97.5)\sin(3.89) - (-83.5)\cos(-2.51)}{(-41.2)\sqrt{(-97.5)^2 + (-83.5)^2}}\right]$ ------- 65=_____

Page DrK-7

DrK-61. $(1/2)\mathrm{Ln}\left[\dfrac{(1.35)\ x\ (5.57)\ x\ (5.13)^3}{(5.13)(0.828)^2}\right]^2$ ---------- 61=_____

DrK-62. (rad) $\cos(0.963 - 0.822) - \cos(0.963 + 0.822)$ ---------- 62=_____

DrK-63. (rad) $\dfrac{98.2}{6(0.39)}\{(-0.468) + (-0.0876)\sin(-6.11)\}^5$ ---------- 63=_____

DrK-64. $(0.66) - \dfrac{(0.66)^2}{2} + \dfrac{(0.66)^3}{3} - \dfrac{(0.66)^4}{4}$ ---------- 64=_____

DrK-65. (rad) $e^{(8.42)}\left[\dfrac{(-1.02)\sin(5.43) - (-0.147)\cos(-1.58)}{(-8.01)\sqrt{(-1.02)^2 + (-0.147)^2}}\right]$ ------ 65=_____

Page DrL-7

DrL-61. $\left[\dfrac{(10^{\pi})x10^{\{(7.88)\ (0.896)\}}}{(1.36)10^{0.306}}\right]^3$ ---------- 61=_____

DrL-62. (rad) $\cos(1.12 - 0.601) - \cos(1.12 + 0.601)$ ---------- 62=_____

DrL-63. (deg) $\sqrt{1 + \left[\dfrac{\cos(55.7°)}{\sin(55.7°)}\right]^2}\ x\ \dfrac{\cos(-47.7°)}{\sin(-47.7°)}$ ---------- 63=_____

DrL-64. $1 + \dfrac{(0.55)^4}{2} - \dfrac{(0.55)^6}{6} + \dfrac{(0.55)^8}{24} - \dfrac{(0.55)^{10}}{120}$ ---------- 64=_____

DrL-65. $\dfrac{(0.941)}{(29)} - \dfrac{(-87.7)}{(80.9)^2}\ \mathrm{Ln}\left[\dfrac{(-0.0262)^2 + (3.49x10^{-4})}{(77.2) + \sqrt{18000}}\right]$ -------- 65=_____

Page DrM-7

DrM-61. $\text{Log}(3.36) + \text{Log}(9.82) + \text{Log}(6.36) + \text{Log}\left[\frac{(3.15)}{(9.82)}\right]$ --------- 61=_____

DrM-62. (rad) $\sin(2.55)\cos(1.32) - \cos(2.55)\sin(1.32)$ ---------- 62=_____

DrM-63. (deg) $\left\{\cos^2(53.2°) - \sin^2(53.2°)\right\} \times \frac{\tan(53.2°)}{1 - \tan^2(53.2°)}$ ----- 63=_____

DrM-64. $-\frac{1}{(9.69)} + \frac{1}{3(9.69)^3} - \frac{1}{5(9.69)^5} + \frac{1}{7(9.69)^7}$ ----- 64=_____

DrM-65. $\frac{(-2.76)}{(5.98)} - \frac{(2.94)}{(4.2)^2}\ \text{Ln}\left[\frac{(-0.0519)^2 + (3.89\text{x}10^{-4})}{(-3.55) + \sqrt{24.2}}\right]$ --------- 65=_____

Page DrN-7

DrN-61. $\frac{(10^{4.29})(10^{7.52})(10^{0.521})}{10\{(7.67)(0.549)\}}$ ---------- 61=_____

DrN-62. $(7.76)10^{\text{Log}[(\pi)(0.499)]} + \{(3490)(0.926)\}^{1/2}$ ---------- 62=_____

DrN-63. (rad) $(8.67)\left[\frac{\cos(-4.36)}{(-4.36)} + \frac{\cos(3.16)}{(3.16)}\right]$ ---------- 63=_____

DrN-64. $\frac{1}{(0.68)} + \frac{1}{3(0.68)^3} + \frac{1}{5(0.68)^5} + \frac{1}{7(0.68)^7}$ -------- 64=_____

DrN-65. $\frac{-0.0559}{\sqrt{0.906}}\ \text{Ln}\left[\frac{\sqrt{(-0.535)^2 + (0.222)} + \sqrt{0.326}}{\sqrt{\pi} + (12.5)(0.00707)}\right]$ ---------- 65=_____

Page DrO-7

DrO-61. $\frac{\left\{e^{0.191} + e^{-0.191}\right\}^2}{\sqrt{e^{(-21.5)(0.277)} \times \left(1/e^{(-4)}\right)}}$ ---------- 61=_____

DrO-62. $(3.82)10^{\text{Log}[(4.85)(0.455)]} + \{(241)(0.926)\}^{1/2}$ --------- 62=_____

DrO-63. (rad) $\frac{1}{(18600)(0.111)}\ \text{Ln}\{(20.7) + (-13.7)\sin(2.63)\}$ ------ 63=_____

DrO-64. $(0.389) - \frac{(0.389)^2}{2} + \frac{(0.389)^3}{3} - \frac{(0.389)^4}{4}$ ---------- 64=_____

DrO-65. $\frac{-5.75}{\sqrt{7.86}}\ \text{Ln}\left[\frac{\sqrt{(6.36)^2 + (5.39)} + \sqrt{17}}{\sqrt{1.62} + (20.3)(0.00895)}\right]$ ---------- 65=_____

Page DrP-7

DrP-61. $\mathrm{Ln}\left[\frac{(0.414)(2.91)}{(32)}\right]^3 + \mathrm{Ln}\left[\frac{(32)}{(4.66)}\right]^3$ ---------- 61=_____

DrP-62. $(92.8 - 54.1)^2 + (1.68 + \pi)e^{\mathrm{Ln}(68.7)}$ ---------- 62=_____

DrP-63. (deg) $\sqrt{1 + \left[\frac{\cos(96.3°)}{\sin(96.3°)}\right]^2} \times \frac{\cos(-9.18°)}{\sin(-9.18°)}$ ---------- 63=_____

DrP-64. $1 + \frac{(0.37)^4}{2} - \frac{(0.37)^6}{6} + \frac{(0.37)^8}{24} - \frac{(0.37)^{10}}{120}$ ---------- 64=_____

DrP-65. $\frac{0.906}{\sqrt{0.478}}\ \mathrm{Ln}\left[\frac{\sqrt{(-0.192)^2 + (0.0144)} + \sqrt{0.0169}}{\sqrt{0.24} + (28)(0.00183)}\right]$ ---------- 65=_____

Page DrQ-7

DrQ-61. $\frac{\sqrt{e^{-(0.632 + 0.925)}}}{\left\{e^{(0.136 - 0.914)}\right\}^2} \times \sqrt[3]{(9.33)^2}$ ---------- 61=_____

DrQ-62. $e^{\mathrm{Ln}[(6.35)(75.1)]} + 10^{\mathrm{Log}[(0.369)(432)]}$ ---------- 62=_____

DrQ-63. (deg) $\sin(-73.5°)\cos(80.1°) + \cos(-73.5°)\sin(80.1°)$ -------- 63=_____

DrQ-64. $-\frac{1}{(7.09)} + \frac{1}{3(7.09)^3} - \frac{1}{5(7.09)^5} + \frac{1}{7(7.09)^7}$ ----- 64=_____

DrQ-65. $\frac{1}{\sqrt{(48.9)^2 - (1130)}}\ \mathrm{Ln}\left\{\frac{(61.2) - \sqrt{(48.9)^2 - (1130)}}{(61.2) + \sqrt{(48.9)^2 - (1130)}}\right\}$ -- 65=_____

Page DrR-7

DrR-61. $2\mathrm{Log}\sqrt{\frac{(5.12)\ (1.69)\ (\pi)}{(5.73)^3(9.15)^3}}$ ---------- 61=_____

DrR-62. $e^{\mathrm{Ln}[(6.88)(43.4)]} + 10^{\mathrm{Log}[(0.326)(323)]}$ ---------- 62=_____

DrR-63. (rad) $(8.67)\left[\frac{\cos(-0.989)}{(-0.989)} + \frac{\cos(7.88)}{(7.88)}\right]$ ---------- 63=_____

DrR-64. $\frac{1}{(0.42)} + \frac{1}{3(0.42)^3} + \frac{1}{5(0.42)^5} + \frac{1}{7(0.42)^7}$ -------- 64=_____

DrR-65. $\frac{1}{\sqrt{(12.5)^2 - (25.7)}}\ \mathrm{Ln}\left\{\frac{(13.7) - \sqrt{(12.5)^2 - (25.7)}}{(13.7) + \sqrt{(12.5)^2 - (25.7)}}\right\}$ -- 65=_____

Page DrS-7

DrS-61. $10^{2.53} \times \sqrt{\dfrac{(10^{3.99})(10^{0.932})}{(10^{-9.75})(10^{0.257})}}$ ---------- 61=_____

DrS-62. (rad) $\dfrac{\sin(8.04)}{\cos(8.04)}\sqrt{1 - \{\sin(0.117 \times 2.83)\}^2}$ ---------- 62=_____

DrS-63. (rad) $\dfrac{1}{(17.9)(0.111)}\ \mathrm{Ln}\{(0.0533) + (-0.0123)\sin(2.82)\}$ --- 63=_____

DrS-64. $1 + (0.129) + \dfrac{(0.129)^2}{2} + \dfrac{(0.129)^3}{6} + \dfrac{(0.129)^4}{24}$ ---------- 64=_____

DrS-65. (rad) $\dfrac{\arctan\left\{e^{-(0.192)(0.523)\sqrt{(-1.88)/(-7.22)}}\right\}}{(4.47)\sqrt{(0.829)(0.425)(1.29)}}$ --------- 65=_____

Page DrT-7

DrT-61. $\mathrm{Log}\left[(9.82)^{-6.3}\right] + (3.43)\mathrm{Log}\left[(9.82)^{(2.95)}\right]$ ---------- 61=_____

DrT-62. (rad) $\cos(2.38 - 1.66) - \cos(2.38 + 1.66)$ ---------- 62=_____

DrT-63. (rad) $\dfrac{98.2}{6(0.931)}\{(-0.382) + (-0.219)\sin(-4.91)\}^5$ ---------- 63=_____

DrT-64. $1 + \dfrac{(0.81)^4}{2} - \dfrac{(0.81)^6}{6} + \dfrac{(0.81)^8}{24} - \dfrac{(0.81)^{10}}{120}$ ---------- 64=_____

DrT-65. (rad) $\dfrac{\arctan\left\{e^{-(0.448)(0.654)\sqrt{(24)/(46.3)}}\right\}}{(75.5)\sqrt{(30.7)(18.1)(16)}}$ ---------- 65=_____

Page DrU-7

DrU-61. $\mathrm{Ln}\left[\dfrac{(2.18)^2 - 2(2.18)(3.91) + (3.91)^2}{(7.64)^2}\right]^2$ ---------- 61=_____

DrU-62. (rad) $\cos(2.53 - 0.97) - \cos(2.53 + 0.97)$ ---------- 62=_____

DrU-63. (deg) $\sin(-12.8°)\cos(165°) + \cos(-12.8°)\sin(165°)$ ---------- 63=_____

DrU-64. $1 + 0.439 + (0.439)^2 + \dfrac{(0.439)^4}{8} - \dfrac{(0.439)^5}{15}$ ---------- 64=_____

DrU-65. (rad) $\dfrac{\arctan\left\{e^{-(0.704)(0.785)\sqrt{(-2.73)/(-3.52)}}\right\}}{(-9.37)\sqrt{(6.96)(4.65)(1.91)}}$ --------- 65=_____

Page DrV-7

DrV-61. $\dfrac{\sqrt{(5.47)^3}\ x\ \left\{e^{(-9.1)(-0.09)}\right\}^3}{\sqrt[3]{e^{(3.8)}\ x\ e^{(-2.36)}}}$ ---------- 61=_____

DrV-62. (rad) $\sin(5.38)\cos(5.79) - \cos(5.38)\sin(5.79)$ ---------- 62=_____

DrV-63. (deg) $\left\{\cos^2(38.1°) - \sin^2(38.1°)\right\}\ x\ \dfrac{\tan(38.1°)}{1 - \tan^2(38.1°)}$ ----- 63=_____

DrV-64. $\dfrac{1}{(0.15)} + \dfrac{1}{3(0.15)^3} + \dfrac{1}{5(0.15)^5} + \dfrac{1}{7(0.15)^7}$ -------- 64=_____

DrV-65. (rad) $\dfrac{(-0.208)(0.0495) - \mathrm{Ln}\left\{(0.0244) + (-4.69)e^{(-7.28)}\right\}}{\arcsin\{(0.164)/(0.493 + 0.11)\}}$ - 65=_____

Page DrW-7

DrW-61. $2\mathrm{Log}\sqrt{\dfrac{(6.88)(6.8)(3.8)}{(8.31)^3(3.66)^3}}$ ---------- 61=_____

DrW-62. $(0.773)10^{\mathrm{Log}[(6.48)(0.11)]} + \{(0.677)(0.926)\}^{1/2}$ ------- 62=_____

DrW-63. (rad) $(8.67)\left[\dfrac{\cos(-3.52)}{(-3.52)} + \dfrac{\cos(7.03)}{(7.03)}\right]$ ---------- 63=_____

DrW-64. $1 + (0.759) + \dfrac{(0.759)^2}{2} + \dfrac{(0.759)^3}{6} + \dfrac{(0.759)^4}{24}$ ---------- 64=_____

DrW-65. (rad) $\dfrac{(-7.27)(0.288) - \mathrm{Ln}\left\{(0.0408) + (-1.05)e^{(-4.19)}\right\}}{\arcsin\{(1.76)/(3.81 + 9.68)\}}$ --- 65=_____

Page DrX-7

DrX-61. $10^{0.767}\ x\ \sqrt{\dfrac{(10^{4.5})(10^{0.444})}{(10^{-7.17})(10^{0.866})}}$ ---------- 61=_____

DrX-62. $(83.2)10^{\mathrm{Log}[(3.31)(0.967)]} + \left\{(1.51x10^5)(0.926)\right\}^{1/2}$ ---- 62=_____

DrX-63. (rad) $\dfrac{98.2}{6(72.7)}\left\{(-12.1) + (-1.76)\sin(-5.38)\right\}^5$ ---------- 63=_____

DrX-64. $1 + \dfrac{(0.629)^4}{2} - \dfrac{(0.629)^6}{6} + \dfrac{(0.629)^8}{24} - \dfrac{(0.629)^{10}}{120}$ -------- 64=_____

DrX-65. (rad) $e^{(5.73)}\left[\dfrac{(-0.746)\sin(3.88) - (-0.586)\cos(-0.331)}{(0.135)\sqrt{(-0.746)^2 + (-0.586)^2}}\right]$ ---- 65=_____

Page DrY-7

DrY-61. $\text{Log}\left[(8.41)^{-2.19}\right] + (4.71)\text{Log}\left[(8.41)^{(2.53)}\right]$ ---------- 61=_____

DrY-62. $(92.8 - 14.3)^2 + (9.14 + 9.9)e^{\text{Ln}(33.3)}$ ---------- 62=_____

DrY-63. (deg) $\sqrt{1 + \left[\frac{\cos(66.1°)}{\sin(66.1°)}\right]^2} \times \frac{\cos(-44°)}{\sin(-44°)}$ ---------- 63=_____

DrY-64. $1 + 0.18 + (0.18)^2 + \frac{(0.18)^4}{8} - \frac{(0.18)^5}{15}$ ---------- 64=_____

DrY-65. (rad) $e^{(8.29)}\left[\frac{(1.28)\sin(5.42) - (1.25)\cos(-2.1)}{(-2.54)\sqrt{(1.28)^2 + (1.25)^2}}\right]$ ---------- 65=_____

Page DrZ-7

DrZ-61. $\text{Ln}\left[\frac{(3.94)^2 - 2(3.94)(4.06) + (4.06)^2}{(3.45)^2}\right]^2$ ---------- 61=_____

DrZ-62. $(92.8 - 19.2)^2 + (5.97 + 6.78)e^{\text{Ln}(68)}$ ---------- 62=_____

DrZ-63. (deg) $\left\{\cos^2(58.4°) - \sin^2(58.4°)\right\} \times \frac{\tan(58.4°)}{1 - \tan^2(58.4°)}$ ---------- 63=_____

DrZ-64. $\frac{1}{(0.79)} + \frac{1}{3(0.79)^3} + \frac{1}{5(0.79)^5} + \frac{1}{7(0.79)^7}$ ---------- 64=_____

DrZ-65. (rad) $e^{(1.86)}\left[\frac{(-9.98)\sin(1.56) - (-2.61)\cos(-1.18)}{(-6.44)\sqrt{(-9.98)^2 + (-2.61)^2}}\right]$ ---------- 65=_____

PAGE 1 (1-5)

DrA-1 = 0.667 = 6.67×10^{-1}
DrA-2 = -0.155 = -1.55×10^{-1}
DrA-3 = 1.72 = 1.72×10^{0}
DrA-4 = 142000 = 1.42×10^{5}
DrA-5 = 0.0119 = 1.19×10^{-2}

DrB-1 = 3.77 = 3.77×10^{0}
DrB-2 = -0.0835 = -8.35×10^{-2}
DrB-3 = 4340 = 4.34×10^{3}
DrB-4 = -1090 = -1.09×10^{3}
DrB-5 = 10.9 = 1.09×10^{1}

DrC-1 = 12.8 = 1.28×10^{1}
DrC-2 = -63.2 = -6.32×10^{1}
DrC-3 = -6050 = -6.05×10^{3}
DrC-4 = 46.5 = 4.65×10^{1}
DrC-5 = -0.00588 = -5.88×10^{-3}

DrD-1 = 7.08 = 7.08×10^{0}
DrD-2 = 0.0369 = 3.69×10^{-2}
DrD-3 = -0.637 = -6.37×10^{-1}
DrD-4 = 92.7 = 9.27×10^{1}
DrD-5 = 8440 = 8.44×10^{3}

DrE-1 = -238 = -2.38×10^{2}
DrE-2 = 0.117 = 1.17×10^{-1}
DrE-3 = 0.679 = 6.79×10^{-1}
DrE-4 = 639 = 6.39×10^{2}

DrF-1 = 0.0426 = 4.26×10^{-2}
DrF-2 = 0.180 = 1.80×10^{-1}
DrF-3 = -1.10 = -1.10×10^{0}
DrF-4 = -1.25×10^{6}
DrF-5 = -0.391 = -3.91×10^{-1}

DrG-1 = 0.0551 = 5.51×10^{-2}
DrG-2 = 0.0926 = 9.26×10^{-2}
DrG-3 = 0.0857 = 8.57×10^{-2}
DrG-4 = 0.514 = 5.14×10^{-1}
DrG-5 = 9.11×10^{-6}

DrH-1 = -0.316 = -3.16×10^{-1}
DrH-2 = 4220 = 4.22×10^{3}
DrH-3 = -0.104 = -1.04×10^{-1}
DrH-4 = 1.45 = 1.45×10^{0}
DrH-5 = 1.40×10^{10}

DrI-1 = 1890 = 1.89×10^{3}
DrI-2 = -0.0972 = -9.72×10^{-2}
DrI-3 = -0.135 = -1.35×10^{-1}
DrI-4 = -3800 = -3.80×10^{3}
DrI-5 = 7890 = 7.89×10^{3}

DrJ-1 = -7.41 = -7.41×10^{0}
DrJ-2 = 1.10 = 1.10×10^{0}
DrJ-3 = 0.0568 = 5.68×10^{-2}
DrJ-4 = -22500 = -2.25×10^{4}

DrK-1 = 0.359 = 3.59×10^{-1}
DrK-2 = 33.7 = 3.37×10^{1}
DrK-3 = -8.20×10^{-6}
DrK-4 = -18.7 = -1.87×10^{1}
DrK-5 = -17.1 = -1.71×10^{1}

DrL-1 = -0.0621 = -6.21×10^{-2}
DrL-2 = 3280 = 3.28×10^{3}
DrL-3 = -1.53 = -1.53×10^{0}
DrL-4 = 1.18 = 1.18×10^{0}
DrL-5 = -17900 = -1.79×10^{4}

DrM-1 = 2.17 = 2.17×10^{0}
DrM-2 = -0.0875 = -8.75×10^{-2}
DrM-3 = -32.4 = -3.24×10^{1}
DrM-4 = -0.986 = -9.86×10^{-1}
DrM-5 = -1380 = -1.38×10^{3}

DrN-1 = 9960 = 9.96×10^{3}
DrN-2 = 1.54 = 1.54×10^{0}
DrN-3 = -0.372 = -3.72×10^{-1}
DrN-4 = 2.17 = 2.17×10^{0}
DrN-5 = 2.11×10^{-5}

DrO-1 = -0.169 = -1.69×10^{-1}
DrO-2 = -69.9 = -6.99×10^{1}
DrO-3 = -139 = -1.39×10^{2}
DrO-4 = 1.36 = 1.36×10^{0}

DrP-1 = 150 = 1.50×10^{2}
DrP-2 = -15.6 = -1.56×10^{1}
DrP-3 = -9.34 = -9.34×10^{0}
DrP-4 = 0.748 = 7.48×10^{-1}
DrP-5 = -176 = -1.76×10^{2}

DrQ-1 = 0.00430 = 4.30×10^{-3}
DrQ-2 = -1.00 = -1.00×10^{0}
DrQ-3 = -0.297 = -2.97×10^{-1}
DrQ-4 = -0.830 = -8.30×10^{-1}
DrQ-5 = 5.92×10^{6}

DrR-1 = 1.25 = 1.25×10^{0}
DrR-2 = -2010 = -2.01×10^{3}
DrR-3 = -15.1 = -1.51×10^{1}
DrR-4 = -3.80 = -3.80×10^{0}
DrR-5 = -0.160 = -1.60×10^{-1}

DrS-1 = 129 = 1.29×10^{2}
DrS-2 = -3700 = -3.70×10^{3}
DrS-3 = -211 = -2.11×10^{2}
DrS-4 = 0.227 = 2.27×10^{-1}
DrS-5 = -0.0462 = -4.62×10^{-2}

DrT-1 = -1.25 = -1.25×10^{0}
DrT-2 = -25.5 = -2.55×10^{1}
DrT-3 = -0.000473 = -4.73×10^{-4}
DrT-4 = 1.90 = 1.90×10^{0}

DrE-5 = -4.91×10^{8}	DrJ-5 = 0.0104 = 1.04×10^{-2}	DrO-5 = 9.41×10^{-5}	DrT-5 = -2.31×10^{9}
DrU-1 = -8.04 = -8.04×10^{0} DrU-2 = 8.38 = 8.38×10^{0} DrU-3 = 70.5 = 7.05×10^{1} DrU-4 = 0.0935 = 9.35×10^{-2} DrU-5 = 330000 = 3.30×10^{5}	DrZ-1 = 0.0478 = 4.78×10^{-2} DrZ-2 = -132 = -1.32×10^{2} DrZ-3 = 68.8 = 6.88×10^{1} DrZ-4 = 9.90 = 9.90×10^{0} DrZ-5 = 0.185 = 1.85×10^{-1}	DrE-11 = 0.168 = 1.68×10^{-1} DrE-12 = 478000 = 4.78×10^{5} DrE-13 = -12.4 = -1.24×10^{1} DrE-14 = -8.25 = -8.25×10^{0} DrE-15 = -1.49×10^{-5}	DrJ-11 = -9.35 = -9.35×10^{0} DrJ-12 = -0.435 = -4.35×10^{-1} DrJ-13 = 31.8 = 3.18×10^{1} DrJ-14 = 0.999 = 9.99×10^{-1} DrJ-15 = -0.300 = -3.00×10^{-1}
DrV-1 = -0.290 = -2.90×10^{-1} DrV-2 = -0.111 = -1.11×10^{-1} DrV-3 = -0.242 = -2.42×10^{-1} DrV-4 = 10.1 = 1.01×10^{1} DrV-5 = -0.170 = -1.70×10^{-1}	**PAGE 2 (11-15)** DrA-11 = 0.229 = 2.29×10^{-1} DrA-12 = 550000 = 5.50×10^{5} DrA-13 = 1760 = 1.76×10^{3} DrA-14 = -122000 = -1.22×10^{5} DrA-15 = -0.00441 = -4.41×10^{-3}	DrF-11 = 0.000369 = 3.69×10^{-4} DrF-12 = 0.390 = 3.90×10^{-1} DrF-13 = -1.18×10^{6} DrF-14 = -0.00710 = -7.10×10^{-3} DrF-15 = 0.000167 = 1.67×10^{-4}	DrK-11 = 6.55×10^{-6} DrK-12 = 0.00863 = 8.63×10^{-3} DrK-13 = 912000 = 9.12×10^{5} DrK-14 = -3470 = -3.47×10^{3} DrK-15 = -7.00×10^{-5}
DrW-1 = 0.672 = 6.72×10^{-1} DrW-2 = -0.114 = -1.14×10^{-1} DrW-3 = -2.16 = -2.16×10^{0} DrW-4 = 0.0740 = 7.40×10^{-2} DrW-5 = 1.09 = 1.09×10^{0}	DrB-11 = 0.344 = 3.44×10^{-1} DrB-12 = 8760 = 8.76×10^{3} DrB-13 = -2010 = -2.01×10^{3} DrB-14 = -14400 = -1.44×10^{4} DrB-15 = -0.697 = -6.97×10^{-1}	DrG-11 = -0.00319 = -3.19×10^{-3} DrG-12 = 79800 = 7.98×10^{4} DrG-13 = -16300 = -1.63×10^{4} DrG-14 = -34.8 = -3.48×10^{1} DrG-15 = -7.28 = -7.28×10^{0}	DrL-11 = -0.0237 = -2.37×10^{-2} DrL-12 = -1.44×10^{-8} DrL-13 = 650 = 6.50×10^{2} DrL-14 = 12400 = 1.24×10^{4} DrL-15 = -8.97 = -8.97×10^{0}
DrX-1 = 149 = 1.49×10^{2} DrX-2 = -0.0750 = -7.50×10^{-2} DrX-3 = -324 = -3.24×10^{2} DrX-4 = 74.2 = 7.42×10^{1} DrX-5 = 978000 = 9.78×10^{5}	DrC-11 = -383000 = -3.83×10^{5} DrC-12 = 2.00×10^{-7} DrC-13 = -1.66 = -1.66×10^{0} DrC-14 = -0.0296 = -2.96×10^{-2} DrC-15 = -0.000297 = -2.97×10^{-4}	DrH-11 = -0.145 = -1.45×10^{-1} DrH-12 = -15.2 = -1.52×10^{1} DrH-13 = 2.10 = 2.10×10^{0} DrH-14 = -0.615 = -6.15×10^{-1} DrH-15 = -4.36×10^{-6}	DrM-11 = -0.000118 = -1.18×10^{-4} DrM-12 = 1.04×10^{6} DrM-13 = -1330 = -1.33×10^{3} DrM-14 = -83.2 = -8.32×10^{1} DrM-15 = 427 = 4.27×10^{2}
DrY-1 = 0.212 = 2.12×10^{-1} DrY-2 = -0.387 = -3.87×10^{-1} DrY-3 = -0.0439 = -4.39×10^{-2}	DrD-11 = -5260 = -5.26×10^{3} DrD-12 = 3.85 = 3.85×10^{0} DrD-13 = 0.0143 = 1.43×10^{-2}	DrI-11 = -5620 = -5.62×10^{3} DrI-12 = 693000 = 6.93×10^{5} DrI-13 = 48700 = 4.87×10^{4}	DrN-11 = 0.292 = 2.92×10^{-1} DrN-12 = 40.3 = 4.03×10^{1} DrN-13 = 0.000151 = 1.51×10^{-4}

DrY-4 = -0.250 = -2.50×10^{-1} DrY-5 = -2.54×10^{6}	DrD-14 = -0.000463 = -4.63×10^{-4} DrD-15 = -3.62×10^{-6}	DrI-14 = 0.0130 = 1.30×10^{-2} DrI-15 = -5.16×10^{-6}	DrN-14 = 7.16 = 7.16×10^{0} DrN-15 = 9090 = 9.09×10^{3}
DrO-11 = 48.5 = 4.85×10^{1} DrO-12 = 386 = 3.86×10^{2} DrO-13 = -3.12 = -3.12×10^{0} DrO-14 = 1.39×10^{6} DrO-15 = -5.75 = -5.75×10^{0}	DrT-11 = -529 = -5.29×10^{2} DrT-12 = 1.40×10^{-6} DrT-13 = 35.8 = 3.58×10^{1} DrT-14 = -98.1 = -9.81×10^{1} DrT-15 = -0.536 = -5.36×10^{-1}	DrY-11 = -0.0164 = -1.64×10^{-2} DrY-12 = -16.2 = -1.62×10^{1} DrY-13 = 6.94×10^{6} DrY-14 = -5590 = -5.59×10^{3} DrY-15 = -503 = -5.03×10^{2}	DrD-21 = 0.0965 = 9.65×10^{-2} DrD-22 = 0.00107 = 1.07×10^{-3} DrD-23 = 1.72×10^{8} DrD-24 = 0.422 = 4.22×10^{-1} DrD-25 = 267 = 2.67×10^{2}
DrP-11 = -5400 = -5.40×10^{3} DrP-12 = 6.96×10^{-8} DrP-13 = -9.72×10^{-5} DrP-14 = 76.5 = 7.65×10^{1} DrP-15 = 0.00209 = 2.09×10^{-3}	DrU-11 = -13100 = -1.31×10^{4} DrU-12 = -38.4 = -3.84×10^{1} DrU-13 = 3.50×10^{-5} DrU-14 = -375000 = -3.75×10^{5} DrU-15 = -514 = -5.14×10^{2}	DrZ-11 = 16.6 = 1.66×10^{1} DrZ-12 = 4.74×10^{6} DrZ-13 = 1.49×10^{7} DrZ-14 = 0.00940 = 9.40×10^{-3} DrZ-15 = 3.85×10^{7}	DrE-21 = 4.83×10^{-5} DrE-22 = -3.50 = -3.50×10^{0} DrE-23 = 0.422 = 4.22×10^{-1} DrE-24 = 11300 = 1.13×10^{4} DrE-25 = -5.02 = -5.02×10^{0}
DrQ-11 = 0.0327 = 3.27×10^{-2} DrQ-12 = -0.0706 = -7.06×10^{-2} DrQ-13 = -0.251 = -2.51×10^{-1} DrQ-14 = -343 = -3.43×10^{2} DrQ-15 = -0.00924 = -9.24×10^{-3}	DrV-11 = 0.259 = 2.59×10^{-1} DrV-12 = 1.99×10^{6} DrV-13 = -299 = -2.99×10^{2} DrV-14 = -209 = -2.09×10^{2} DrV-15 = 20100 = 2.01×10^{4}	**PAGE 3 (21-25)** DrA-21 = 0.0541 = 5.41×10^{-2} DrA-22 = 0.407 = 4.07×10^{-1} DrA-23 = 16.4 = 1.64×10^{1} DrA-24 = 10.1 = 1.01×10^{1} DrA-25 = 1.56 = 1.56×10^{0}	DrF-21 = 0.00510 = 5.10×10^{-3} DrF-22 = 0.498 = 4.98×10^{-1} DrF-23 = 0.00143 = 1.43×10^{-3} DrF-24 = 12.2 = 1.22×10^{1} DrF-25 = 1.34×10^{9}
DrR-11 = -2.19 = -2.19×10^{0} DrR-12 = 0.0106 = 1.06×10^{-2} DrR-13 = -0.344 = -3.44×10^{-1} DrR-14 = -183 = -1.83×10^{2} DrR-15 = 0.115 = 1.15×10^{-1}	DrW-11 = 0.0681 = 6.81×10^{-2} DrW-12 = 2.01 = 2.01×10^{0} DrW-13 = -973 = -9.73×10^{2} DrW-14 = 416 = 4.16×10^{2} DrW-15 = -0.456 = -4.56×10^{-1}	DrB-21 = 3.10 = 3.10×10^{0} DrB-22 = 0.00370 = 3.70×10^{-3} DrB-23 = 15.6 = 1.56×10^{1} DrB-24 = 6.75×10^{8} DrB-25 = 0.389 = 3.89×10^{-1}	DrG-21 = -0.120 = -1.20×10^{-1} DrG-22 = 0.243 = 2.43×10^{-1} DrG-23 = 0.417 = 4.17×10^{-1} DrG-24 = 0.333 = 3.33×10^{-1} DrG-25 = 30.3 = 3.03×10^{1}

DrS-11 = 1.23 = $1.23x10^{0}$ DrS-12 = 2.18 = $2.18x10^{0}$ DrS-13 = 1.53 = $1.53x10^{0}$ DrS-14 = 14300 = $1.43x10^{4}$ DrS-15 = -2.66 = $-2.66x10^{0}$	DrX-11 = -0.0105 = $-1.05x10^{-2}$ DrX-12 = $7.13x10^{-8}$ DrX-13 = 28800 = $2.88x10^{4}$ DrX-14 = -39.9 = $-3.99x10^{1}$ DrX-15 = -1530 = $-1.53x10^{3}$	DrC-21 = 0.197 = $1.97x10^{-1}$ DrC-22 = 0.0602 = $6.02x10^{-2}$ DrC-23 = 3.56 = $3.56x10^{0}$ DrC-24 = $1.43x10^{9}$ DrC-25 = -0.189 = - $1.89x10^{-1}$	DrH-21 = 0.301 = $3.01x10^{-1}$ DrH-22 = 0.0196 = $1.96x10^{-2}$ DrH-23 = 0.450 = $4.50x10^{-1}$ DrH-24 = 555000 = $5.55x10^{5}$ DrH-25 = 132 = $1.32x10^{2}$

DrI-21 = -0.211 = - $2.11x10^{-1}$ DrI-22 = 0.261 = $2.61x10^{-1}$ DrI-23 = 936000 = $9.36x10^{5}$ DrI-24 = 51.5 = $5.15x10^{1}$ DrI-25 = $2.09x10^{-5}$	DrN-21 = 0.0492 = $4.92x10^{-2}$ DrN-22 = 0.00207 = $2.07x10^{-3}$ DrN-23 = 4.34 = $4.34x10^{0}$ DrN-24 = 0.825 = $8.25x10^{-1}$ DrN-25 = $6.13x10^{8}$	DrS-21 = 832 = $8.32x10^{2}$ DrS-22 = 0.371 = $3.71x10^{-1}$ DrS-23 = $2.28x10^{-5}$ DrS-24 = 0.794 = $7.94x10^{-1}$ DrS-25 = 0.107 = $1.07x10^{-1}$	DrX-21 = -0.0600 = - $6.00x10^{-2}$ DrX-22 = 0.0936 = $9.36x10^{-2}$ DrX-23 = 49.1 = $4.91x10^{1}$ DrX-24 = $1.76x10^{9}$ DrX-25 = 0.483 = $4.83x10^{-1}$
DrJ-21 = 0.0223 = $2.23x10^{-2}$ DrJ-22 = 1.99 = $1.99x10^{0}$ DrJ-23 = 7250 = $7.25x10^{3}$ DrJ-24 = $4.76x10^{6}$ DrJ-25 = 0.307 = $3.07x10^{-1}$	DrO-21 = 0.533 = $5.33x10^{-1}$ DrO-22 = -5.41 = $-5.41x10^{0}$ DrO-23 = 258 = $2.58x10^{2}$ DrO-24 = 0.825 = $8.25x10^{-1}$ DrO-25 = 13.2 = $1.32x10^{1}$	DrT-21 = 0.119 = $1.19x10^{-1}$ DrT-22 = -1.20 = $-1.20x10^{0}$ DrT-23 = 128 = $1.28x10^{2}$ DrT-24 = $9.05x10^{9}$ DrT-25 = 62.3 = $6.23x10^{1}$	DrY-21 = 0.0988 = $9.88x10^{-2}$ DrY-22 = 0.212 = $2.12x10^{-1}$ DrY-23 = 0.881 = $8.81x10^{-1}$ DrY-24 = $2.51x10^{6}$ DrY-25 = 89.0 = $8.90x10^{1}$
DrK-21 = 0.0251 = $2.51x10^{-2}$ DrK-22 = 0.232 = $2.32x10^{-1}$ DrK-23 = 241 = $2.41x10^{2}$ DrK-24 = -17.7 = $-1.77x10^{1}$ DrK-25 = 0.0847 = $8.47x10^{-2}$	DrP-21 = -0.352 = - $3.52x10^{-1}$ DrP-22 = 0.251 = $2.51x10^{-1}$ DrP-23 = 7.46 = $7.46x10^{0}$ DrP-24 = $8.25x10^{7}$ DrP-25 = 0.303 = $3.03x10^{-1}$	DrU-21 = 0.198 = $1.98x10^{-1}$ DrU-22 = 0.765 = $7.65x10^{-1}$ DrU-23 = 0.184 = $1.84x10^{-1}$ DrU-24 = $1.99x10^{8}$ DrU-25 = 0.0238 = $2.38x10^{-2}$	DrZ-21 = -0.199 = - $1.99x10^{-1}$ DrZ-22 = 0.197 = $1.97x10^{-1}$ DrZ-23 = $1.34x10^{8}$ DrZ-24 = 5.71 = $5.71x10^{0}$ DrZ-25 = 70.7 = $7.07x10^{1}$
DrL-21 = 0.0626 = $6.26x10^{-2}$ DrL-22 = 0.197 = $1.97x10^{-1}$ DrL-23 = 3390 = $3.39x10^{3}$ DrL-24 = $3.30x10^{9}$ DrL-25 = 1.02	DrQ-21 = $3.49x10^{-5}$ DrQ-22 = 0.0633 = $6.33x10^{-2}$ DrQ-23 = $1.55x10^{7}$ DrQ-24 = 144 = $1.44x10^{2}$ DrQ-25 = 1.01 = $1.01x10^{0}$	DrV-21 = 0.000257 = $2.57x10^{-4}$ DrV-22 = 0.378 = $3.78x10^{-1}$ DrV-23 = $5.21x10^{7}$ DrV-24 = 208 = $2.08x10^{2}$ DrV-25 = 24.9	**PAGE 4 (31-35)** DrA-31 = $2.13x10^{-11}$ DrA-32 = 0.00165 = $1.65x10^{-3}$ DrA-33 = 0.000422 = $4.22x10^{-4}$ DrA-34 = 1.96 = $1.96x10^{0}$

= 1.02×10^{0}		= 2.49×10^{1}	DrA-35 = -126 = -1.26×10^{2}
DrM-21 = 0.177 = 1.77×10^{-1} DrM-22 = 0.00959 = 9.59×10^{-3} DrM-23 = 1.33×10^{8} DrM-24 = 12.3 = 1.23×10^{1} DrM-25 = 6.01 = 6.01×10^{0}	DrR-21 = 0.0976 = 9.76×10^{-2} DrR-22 = 0.0510 = 5.10×10^{-2} DrR-23 = 5.16×10^{8} DrR-24 = 0.414 = 4.14×10^{-1} DrR-25 = 1.95 = 1.95×10^{0}	DrW-21 = 0.0620 = 6.20×10^{-2} DrW-22 = 0.152 = 1.52×10^{-1} DrW-23 = -1.66 = -1.66×10^{0} DrW-24 = 90.0 = 9.00×10^{1} DrW-25 = 8.42×10^{7}	DrB-31 = 0.0325 = 3.25×10^{-2} DrB-32 = 1.01 = 1.01×10^{0} DrB-33 = 1.07×10^{-8} DrB-34 = 320 = 3.20×10^{2} DrB-35 = 7.28×10^{-8}

DrC-31 = 1120 = 1.12×10^{3} DrC-32 = 0.797 = 7.97×10^{-1} DrC-33 = 1.58 = 1.58×10^{0} DrC-34 = 46.8 = 4.68×10^{1} DrC-35 = -0.0134 = -1.34×10^{-2}	DrH-31 = 11000 = 1.10×10^{4} DrH-32 = 0.202 = 2.02×10^{-1} DrH-33 = 1.24 = 1.24×10^{0} DrH-34 = 433 = 4.33×10^{2} DrH-35 = 0.0161 = 1.61×10^{-2}	DrM-31 = 10100 = 1.01×10^{4} DrM-32 = 75.7 = 7.57×10^{1} DrM-33 = 0.0622 = 6.22×10^{-2} DrM-34 = 16.1 = 1.61×10^{1} DrM-35 = 13200 = 1.32×10^{4}	DrR-31 = 62200 = 6.22×10^{4} DrR-32 = 0.163 = 1.63×10^{-1} DrR-33 = 1.90 = 1.90×10^{0} DrR-34 = -0.0129 = -1.29×10^{-2} DrR-35 = -3.53×10^{-9}
DrD-31 = 132 = 1.32×10^{2} DrD-32 = 17.2 = 1.72×10^{1} DrD-33 = 0.0272 = 2.72×10^{-2} DrD-34 = 0.842 = 8.42×10^{-1} DrD-35 = -1.80×10^{-5}	DrI-31 = 31000 = 3.10×10^{4} DrI-32 = 0.00364 = 3.64×10^{-3} DrI-33 = 1.74 = 1.74×10^{0} DrI-34 = 0.241 = 2.41×10^{-1} DrI-35 = 2.06×10^{-14}	DrN-31 = 0.180 = 1.80×10^{-1} DrN-32 = 0.00450 = 4.50×10^{-3} DrN-33 = -0.000221 = -2.21×10^{-4} DrN-34 = 50.0 = 5.00×10^{1} DrN-35 = 479000 = 4.79×10^{5}	DrS-31 = 0.305 = 3.05×10^{-1} DrS-32 = 0.00338 = 3.38×10^{-3} DrS-33 = 724 = 7.24×10^{2} DrS-34 = 0.482 = 4.82×10^{-1} DrS-35 = -0.000165 = -1.65×10^{-4}
DrE-31 = 0.00196 = 1.96×10^{-3} DrE-32 = 745 = 7.45×10^{2} DrE-33 = 0.0158 = 1.58×10^{-2} DrE-34 = -8.79 = -8.79×10^{0} DrE-35 = 1.39×10^{-6}	DrJ-31 = 0.00327 = 3.27×10^{-3} DrJ-32 = 7180 = 7.18×10^{3} DrJ-33 = 2.94×10^{-7} DrJ-34 = 4.12 = 4.12×10^{0} DrJ-35 = 2.64×10^{-9}	DrO-31 = 10700 = 1.07×10^{4} DrO-32 = 0.00918 = 9.18×10^{-3} DrO-33 = 3.81×10^{-7} DrO-34 = -0.164 = -1.64×10^{-1} DrO-35 = -6880 = -6.88×10^{3}	DrT-31 = 21300 = 2.13×10^{4} DrT-32 = 0.00285 = 2.85×10^{-3} DrT-33 = 7.69 = 7.69×10^{0} DrT-34 = 0.641 = 6.41×10^{-1} DrT-35 = 48.7 = 4.87×10^{1}
DrF-31 = 5.03×10^{12} DrF-32 = 0.00532 = 5.32×10^{-3} DrF-33 = -0.0176 = -1.76×10^{-2} DrF-34 = 14.3 = 1.43×10^{1} DrF-35 = -0.193 = -1.93×10^{-1}	DrK-31 = 4.72×10^{-5} DrK-32 = 1.08 = 1.08×10^{0} DrK-33 = 3.97 = 3.97×10^{0} DrK-34 = 0.130 = 1.30×10^{-1} DrK-35 = 1.45 = 1.45×10^{0}	DrP-31 = 1550 = 1.55×10^{3} DrP-32 = 0.516 = 5.16×10^{-1} DrP-33 = 4.15 = 4.15×10^{0} DrP-34 = 1.12 = 1.12×10^{0} DrP-35 = -1150 = -1.15×10^{3}	DrU-31 = 99.1 = 9.91×10^{1} DrU-32 = 0.00268 = 2.68×10^{-3} DrU-33 = -0.00159 = -1.59×10^{-3} DrU-34 = 6.10×10^{-7} DrU-35 = 6.42×10^{-9}
DrG-31 = 6.49 = 6.49×10^{0} DrG-32 = 6100 = 6.10×10^{3} DrG-33 = 9.48×10^{-6} DrG-34 = 0.564 = 5.64×10^{-1} DrG-35 = 0.0958	DrL-31 = 0.0398 = 3.98×10^{-2} DrL-32 = 3500 = 3.50×10^{3} DrL-33 = 0.605 = 6.05×10^{-1} DrL-34 = -0.00421 = -4.21×10^{-3}	DrQ-31 = 0.00249 = 2.49×10^{-3} DrQ-32 = 0.328 = 3.28×10^{-1} DrQ-33 = 0.000982 = 9.82×10^{-4} DrQ-34 = 3.36 = 3.36×10^{0}	DrV-31 = 0.0281 = 2.81×10^{-2} DrV-32 = 245000 = 2.45×10^{5} DrV-33 = 0.136 = 1.36×10^{-1} DrV-34 = 1.63 = 1.63×10^{0}

$= 9.58 \times 10^{-2}$	DrL-35 $= 4.03 \times 10^{-8}$	DrQ-35 $= -14.4$ $= -1.44 \times 10^{1}$	DrV-35 $= 2.00 \times 10^{-7}$
DrW-31 $= 1.09 \times 10^{-7}$ DrW-32 $= 3300$ $= 3.30 \times 10^{3}$ DrW-33 $= 0.274$ $= 2.74 \times 10^{-1}$ DrW-34 $= -0.0363$ $= -3.63 \times 10^{-2}$ DrW-35 $= 3.75 \times 10^{-8}$	DrB-41 $= -1.18 \times 10^{17}$ DrB-42 $= -6.80 \times 10^{6}$ DrB-43 $= -3.08$ $= -3.08 \times 10^{0}$ DrB-44 $= 0.000103$ $= 1.03 \times 10^{-4}$ DrB-45 $= 228$ $= 2.28 \times 10^{2}$	DrG-41 $= 1.09 \times 10^{9}$ DrG-42 $= 1.52 \times 10^{-6}$ DrG-43 $= -0.643$ $= -6.43 \times 10^{-1}$ DrG-44 $= 20.7$ $= 2.07 \times 10^{1}$ DrG-45 $= 0.0593$ $= 5.93 \times 10^{-2}$	DrL-41 $= -267$ $= -2.67 \times 10^{2}$ DrL-42 $= 0.000664$ $= 6.64 \times 10^{-4}$ DrL-43 $= -0.00954$ $= -9.54 \times 10^{-3}$ DrL-44 $= 1280$ $= 1.28 \times 10^{3}$ DrL-45 $= -1.02$ $= -1.02 \times 10^{0}$
DrX-31 $= 0.0346$ $= 3.46 \times 10^{-2}$ DrX-32 $= 9.04 \times 10^{8}$ DrX-33 $= 6.60 \times 10^{-15}$ DrX-34 $= 2.30$ $= 2.30 \times 10^{0}$ DrX-35 $= 1.53 \times 10^{-5}$	DrC-41 $= -2.45 \times 10^{9}$ DrC-42 $= 0.0180$ $= 1.80 \times 10^{-2}$ DrC-43 $= 29400$ $= 2.94 \times 10^{4}$ DrC-44 $= 1060$ $= 1.06 \times 10^{3}$ DrC-45 $= -1.01$ $= -1.01 \times 10^{0}$	DrH-41 $= -252000$ $= -2.52 \times 10^{5}$ DrH-42 $= -0.780$ $= -7.80 \times 10^{-1}$ DrH-43 $= -3300$ $= -3.30 \times 10^{3}$ DrH-44 $= 0.160$ $= 1.60 \times 10^{-1}$ DrH-45 $= -2.32 \times 10^{-9}$	DrM-41 $= 2.63$ $= 2.63 \times 10^{0}$ DrM-42 $= 132000$ $= 1.32 \times 10^{5}$ DrM-43 $= 0.0763$ $= 7.63 \times 10^{-2}$ DrM-44 $= 13.7$ $= 1.37 \times 10^{1}$ DrM-45 $= 0.911$ $= 9.11 \times 10^{-1}$
DrY-31 $= 4240$ $= 4.24 \times 10^{3}$ DrY-32 $= 36900$ $= 3.69 \times 10^{4}$ DrY-33 $= 0.320$ $= 3.20 \times 10^{-1}$ DrY-34 $= 33.1$ $= 3.31 \times 10^{1}$ DrY-35 $= 2.04 \times 10^{-11}$	DrD-41 $= 1.35$ $= 1.35 \times 10^{0}$ DrD-42 $= 1.56 \times 10^{-5}$ DrD-43 $= -74500$ $= -7.45 \times 10^{4}$ DrD-44 $= 23.8$ $= 2.38 \times 10^{1}$ DrD-45 $= -0.570$ $= -5.70 \times 10^{-1}$	DrI-41 $= 934$ $= 9.34 \times 10^{2}$ DrI-42 $= -0.0988$ $= -9.88 \times 10^{-2}$ DrI-43 $= 0.0586$ $= 5.86 \times 10^{-2}$ DrI-44 $= 60.6$ $= 6.06 \times 10^{1}$ DrI-45 $= 55.7$ $= 5.57 \times 10^{1}$	DrN-41 $= 2.51$ $= 2.51 \times 10^{0}$ DrN-42 $= 22.3$ $= 2.23 \times 10^{1}$ DrN-43 $= -257$ $= -2.57 \times 10^{2}$ DrN-44 $= 5.30 \times 10^{9}$ DrN-45 $= -27800$ $= -2.78 \times 10^{4}$
DrZ-31 $= 26.3$ $= 2.63 \times 10^{1}$ DrZ-32 $= 1.25 \times 10^{12}$ DrZ-33 $= 0.00185$ $= 1.85 \times 10^{-3}$ DrZ-34 $= 74.0$ $= 7.40 \times 10^{1}$ DrZ-35 $= 2.58 \times 10^{-8}$	DrE-41 $= 4.41 \times 10^{7}$ DrE-42 $= -2.15 \times 10^{-5}$ DrE-43 $= -9.14$ $= -9.14 \times 10^{0}$ DrE-44 $= 3.14 \times 10^{-10}$ DrE-45 $= 4390$ $= 4.39 \times 10^{3}$	DrJ-41 $= 1.47$ $= 1.47 \times 10^{0}$ DrJ-42 $= 0.0829$ $= 8.29 \times 10^{-2}$ DrJ-43 $= -1.73$ $= -1.73 \times 10^{0}$ DrJ-44 $= 32.0$ $= 3.20 \times 10^{1}$ DrJ-45 $= 1.73$ $= 1.73 \times 10^{0}$	DrO-41 $= 0.00115$ $= 1.15 \times 10^{-3}$ DrO-42 $= -1.78 \times 10^{-5}$ DrO-43 $= -30.5$ $= -3.05 \times 10^{1}$ DrO-44 $= 382$ $= 3.82 \times 10^{2}$ DrO-45 $= -2.46$ $= -2.46 \times 10^{0}$
PAGE 5 (41-45) DrA-41 $= 1.80$ $= 1.80 \times 10^{0}$ DrA-42 $= -1120$ $= -1.12 \times 10^{3}$ DrA-43 $= 0.115$ $= 1.15 \times 10^{-1}$	DrF-41 $= 7.46$ $= 7.46 \times 10^{0}$ DrF-42 $= -0.731$ $= -7.31 \times 10^{-1}$ DrF-43 $= -0.00711$ $= -7.11 \times 10^{-3}$ DrF-44 $= 3720$	DrK-41 $= 2.66$ $= 2.66 \times 10^{0}$ DrK-42 $= 0.241$ $= 2.41 \times 10^{-1}$ DrK-43 $= 0.0198$ $= 1.98 \times 10^{-2}$ DrK-44 $= 0.00697$	DrP-41 $= 1.13$ $= 1.13 \times 10^{0}$ DrP-42 $= -605$ $= -6.05 \times 10^{2}$ DrP-43 $= -0.829$ $= -8.29 \times 10^{-1}$ DrP-44 $= 562$

DrA-44 = 14.6 = 1.46×10^{1} DrA-45 = 0.509 = 5.09×10^{-1}	= 3.72×10^{3} DrF-45 = -1.43 = -1.43×10^{0}	= 6.97×10^{-3} DrK-45 = - 9.73×10^{-11}	= 5.62×10^{2} DrP-45 = 1.28 = 1.28×10^{0}
DrQ-41 = 0.0307 = 3.07×10^{-2} DrQ-42 = 67.6 = 6.76×10^{1} DrQ-43 = -2260 = -2.26×10^{3} DrQ-44 = 13.4 = 1.34×10^{1} DrQ-45 = -166 = -1.66×10^{2}	DrV-41 = -79.1 = -7.91×10^{1} DrV-42 = -0.493 = -4.93×10^{-1} DrV-43 = -47.4 = -4.74×10^{1} DrV-44 = 428 = 4.28×10^{2} DrV-45 = 0.0767 = 7.67×10^{-2}	**PAGE 6 (51-55)** DrA-51 = -0.0101 = -1.01×10^{-2} DrA-52 = -372000 = -3.72×10^{5} DrA-53 = -456000 = -4.56×10^{5} DrA-54 = 1.77 = 1.77×10^{0} DrA-55 = 1.70 = 1.70×10^{0}	DrF-51 = 0.458 = 4.58×10^{-1} DrF-52 = -8250 = -8.25×10^{3} DrF-53 = -135 = -1.35×10^{2} DrF-54 = 1.99 = 1.99×10^{0} DrF-55 = 0.0115 = 1.15×10^{-2}
DrR-41 = 168 = 1.68×10^{2} DrR-42 = 440000 = 4.40×10^{5} DrR-43 = -19200 = -1.92×10^{4} DrR-44 = 805 = 8.05×10^{2} DrR-45 = -0.993 = -9.93×10^{-1}	DrW-41 = 1.09 = 1.09×10^{0} DrW-42 = 0.334 = 3.34×10^{-1} DrW-43 = 159 = 1.59×10^{2} DrW-44 = 22.6 = 2.26×10^{1} DrW-45 = 9.96×10^{-12}	DrB-51 = 8.78 = 8.78×10^{0} DrB-52 = 2.61×10^{6} DrB-53 = -19.2 = -1.92×10^{1} DrB-54 = 1.98 = 1.98×10^{0} DrB-55 = 2.60 = 2.60×10^{0}	DrG-51 = 10.2 = 1.02×10^{1} DrG-52 = -334 = -3.34×10^{2} DrG-53 = 1.38 = 1.38×10^{0} DrG-54 = 0.195 = 1.95×10^{-1} DrG-55 = 2.85 = 2.85×10^{0}
DrS-41 = 5.41×10^{8} DrS-42 = 0.275 = 2.75×10^{-1} DrS-43 = 1.66 = 1.66×10^{0} DrS-44 = 2790 = 2.79×10^{3} DrS-45 = -0.159 = -1.59×10^{-1}	DrX-41 = -1.89×10^{12} DrX-42 = -61.7 = -6.17×10^{1} DrX-43 = 0.537 = 5.37×10^{-1} DrX-44 = 0.00774 = 7.74×10^{-3} DrX-45 = -7.71 = -7.71×10^{0}	DrC-51 = 0.0529 = 5.29×10^{-2} DrC-52 = 9.20×10^{-6} DrC-53 = 3.37 = 3.37×10^{0} DrC-54 = 1730 = 1.73×10^{3} DrC-55 = 3.37 = 3.37×10^{0}	DrH-51 = 0.0110 = 1.10×10^{-2} DrH-52 = -21.1 = -2.11×10^{1} DrH-53 = 1.05 = 1.05×10^{0} DrH-54 = -0.142 = -1.42×10^{-1} DrH-55 = 4.85×10^{-10}
DrT-41 = -347 = -3.47×10^{2} DrT-42 = 1820 = 1.82×10^{3} DrT-43 = 0.0565 = 5.65×10^{-2} DrT-44 = 18.6 = 1.86×10^{1} DrT-45 = - 5.60×10^{-10}	DrY-41 = 600 = 6.00×10^{2} DrY-42 = -766 = -7.66×10^{2} DrY-43 = 6.43 = 6.43×10^{0} DrY-44 = 1.48 = 1.48×10^{0} DrY-45 = -0.896 = -8.96×10^{-1}	DrD-51 = 2.99 = 2.99×10^{0} DrD-52 = 5.59×10^{-5} DrD-53 = 0.0369 = 3.69×10^{-2} DrD-54 = 0.0275 = 2.75×10^{-2} DrD-55 = 2.27 = 2.27×10^{0}	DrI-51 = 5.13 = 5.13×10^{0} DrI-52 = -0.00661 = -6.61×10^{-3} DrI-53 = -48900 = -4.89×10^{4} DrI-54 = -0.331 = -3.31×10^{-1} DrI-55 = 2.71 = 2.71×10^{0}

DrU-41 = 11.0 = 1.10×10^{1} DrU-42 = -0.640 = -6.40×10^{-1} DrU-43 = -30.7 = -3.07×10^{1} DrU-44 = 1.24×10^{8} DrU-45 = -1.21 = -1.21×10^{0}	DrZ-41 = -3.94×10^{-9} DrZ-42 = 4.51×10^{-6} DrZ-43 = -0.218 = -2.18×10^{-1} DrZ-44 = 11.9 = 1.19×10^{1} DrZ-45 = -31100 = -3.11×10^{4}	DrE-51 = 0.271 = 2.71×10^{-1} DrE-52 = -7.58×10^{7} DrE-53 = -2.61×10^{7} DrE-54 = 1.72 = 1.72×10^{0} DrE-55 = 2.97 = 2.97×10^{0}	DrJ-51 = 5.35×10^{-10} DrJ-52 = 0.0452 = 4.52×10^{-2} DrJ-53 = -89900 = -8.99×10^{4} DrJ-54 = 2.36 = 2.36×10^{0} DrJ-55 = 1.01 = 1.01×10^{0}
DrK-51 = -0.00144 = -1.44×10^{-3} DrK-52 = -0.878 = -8.78×10^{-1} DrK-53 = 21.2 = 2.12×10^{1} DrK-54 = 587 = 5.87×10^{2} DrK-55 = 1.15 = 1.15×10^{0}	DrP-51 = 4.16 = 4.16×10^{0} DrP-52 = -71.7 = -7.17×10^{1} DrP-53 = 2.15 = 2.15×10^{0} DrP-54 = 1.33×10^{-5} DrP-55 = 2.83 = 2.83×10^{0}	DrU-51 = 2.24 = 2.24×10^{0} DrU-52 = 9.70×10^{-8} DrU-53 = -2.23 = -2.23×10^{0} DrU-54 = 6.67 = 6.67×10^{0} DrU-55 = -1.91×10^{-5}	DrZ-51 = 20.5 = 2.05×10^{1} DrZ-52 = -5190 = -5.19×10^{3} DrZ-53 = -9.86 = -9.86×10^{0} DrZ-54 = 1.81 = 1.81×10^{0} DrZ-55 = 2.39 = 2.39×10^{0}
DrL-51 = 0.000123 = 1.23×10^{-4} DrL-52 = 12.6 = 1.26×10^{1} DrL-53 = 2.89 = 2.89×10^{0} DrL-54 = -405 = -4.05×10^{2} DrL-55 = 46.7 = 4.67×10^{1}	DrQ-51 = 0.0837 = 8.37×10^{-2} DrQ-52 = -1220 = -1.22×10^{3} DrQ-53 = 0.783 = 7.83×10^{-1} DrQ-54 = 122 = 1.22×10^{2} DrQ-55 = 1.21 = 1.21×10^{0}	DrV-51 = 0.00193 = 1.93×10^{-3} DrV-52 = 6.65×10^{6} DrV-53 = -1020 = -1.02×10^{3} DrV-54 = 2.07 = 2.07×10^{0} DrV-55 = 2.17 = 2.17×10^{0}	**PAGE 7 (61-65)** DrA-61 = 2.05 = 2.05×10^{0} DrA-62 = 1.13 = 1.13×10^{0} DrA-63 = -0.933 = -9.33×10^{-1} DrA-64 = -0.115 = -1.15×10^{-1} DrA-65 = -1.72 = -1.72×10^{0}
DrM-51 = 0.117 = 1.17×10^{-1} DrM-52 = 1.79 = 1.79×10^{0} DrM-53 = -3030 = -3.03×10^{3} DrM-54 = -1.65×10^{-5} DrM-55 = 1.04 = 1.04×10^{0}	DrR-51 = 0.000214 = 2.14×10^{-4} DrR-52 = -89.1 = -8.91×10^{1} DrR-53 = -940000 = -9.40×10^{5} DrR-54 = 1.69 = 1.69×10^{0} DrR-55 = 2.34 = 2.34×10^{0}	DrW-51 = 0.0206 = 2.06×10^{-2} DrW-52 = 3.38×10^{7} DrW-53 = -1.92×10^{6} DrW-54 = 6.54 = 6.54×10^{0} DrW-55 = -1.57×10^{9}	DrB-61 = 3.20×10^{7} DrB-62 = 0.373 = 3.73×10^{-1} DrB-63 = 5.81×10^{6} DrB-64 = 13.1 = 1.31×10^{1} DrB-65 = -0.0204 = -2.04×10^{-2}
DrN-51 = 2090 = 2.09×10^{3} DrN-52 = 2.59 = 2.59×10^{0} DrN-53 = -1.16×10^{7} DrN-54 = 1.63 = 1.63×10^{0} DrN-55 = 12400	DrS-51 = 4.74 = 4.74×10^{0} DrS-52 = -1.77×10^{-7} DrS-53 = 0.000534 = 5.34×10^{-4} DrS-54 = 0.288 = 2.88×10^{-1} DrS-55 = 1.05	DrX-51 = 0.000212 = 2.12×10^{-4} DrX-52 = 1.76×10^{7} DrX-53 = 1.55 = 1.55×10^{0} DrX-54 = 4.79 = 4.79×10^{0} DrX-55 = 2.01	DrC-61 = 0.000667 = 6.67×10^{-4} DrC-62 = 0.621 = 6.21×10^{-1} DrC-63 = -4.38 = -4.38×10^{0} DrC-64 = 0.254 = 2.54×10^{-1} DrC-65 = -0.0890

= 1.24×10^{4}	= 1.05×10^{0}	= 2.01×10^{0}	= -8.90×10^{-2}
DrO-51 = 0.0216 = 2.16×10^{-2} DrO-52 = -1050 = -1.05×10^{3} DrO-53 = 0.00536 = 5.36×10^{-3} DrO-54 = 255 = 2.55×10^{2} DrO-55 = 1.18 = 1.18×10^{0}	DrT-51 = 3.60 = 3.60×10^{0} DrT-52 = -6.40×10^{-8} DrT-53 = 2.22 = 2.22×10^{0} DrT-54 = 0.296 = 2.96×10^{-1} DrT-55 = 1.55 = 1.55×10^{0}	DrY-51 = 0.0324 = 3.24×10^{-2} DrY-52 = -69.4 = -6.94×10^{1} DrY-53 = 4.77 = 4.77×10^{0} DrY-54 = -0.0302 = -3.02×10^{-2} DrY-55 = 0.130 = 1.30×10^{-1}	DrD-61 = 6.87 = 6.87×10^{0} DrD-62 = 0.249 = 2.49×10^{-1} DrD-63 = 0.331 = 3.31×10^{-1} DrD-64 = 1.29 = 1.29×10^{0} DrD-65 = -0.105 = -1.05×10^{-1}
DrE-61 = 0.0877 = 8.77×10^{-2} DrE-62 = 111 = 1.11×10^{2} DrE-63 = -9.91 = -9.91×10^{0} DrE-64 = -0.165 = -1.65×10^{-1} DrE-65 = 0.000220 = 2.20×10^{-4}	DrJ-61 = 42.5 = 4.25×10^{1} DrJ-62 = 0.0906 = 9.06×10^{-2} DrJ-63 = -0.00160 = -1.60×10^{-3} DrJ-64 = 1.91 = 1.91×10^{0} DrJ-65 = 0.0694 = 6.94×10^{-2}	DrO-61 = 11.0 = 1.10×10^{1} DrO-62 = 23.4 = 2.34×10^{1} DrO-63 = 0.00128 = 1.28×10^{-3} DrO-64 = 0.327 = 3.27×10^{-1} DrO-65 = -4.13 = -4.13×10^{0}	DrT-61 = 3.79 = 3.79×10^{0} DrT-62 = 1.37 = 1.37×10^{0} DrT-63 = -1.33 = -1.33×10^{0} DrT-64 = 1.17 = 1.17×10^{0} DrT-65 = 6.92×10^{-5}
DrF-61 = -3.33 = -3.33×10^{0} DrF-62 = 14.9 = 1.49×10^{1} DrF-63 = -0.0312 = -3.12×10^{-2} DrF-64 = 604 = 6.04×10^{2} DrF-65 = 0.0124 = 1.24×10^{-2}	DrK-61 = 5.67 = 5.67×10^{0} DrK-62 = 1.20 = 1.20×10^{0} DrK-63 = -1.10 = -1.10×10^{0} DrK-64 = 0.491 = 4.91×10^{-1} DrK-65 = -422 = -4.22×10^{2}	DrP-61 = -4.06 = -4.06×10^{0} DrP-62 = 1830 = 1.83×10^{3} DrP-63 = -6.23 = -6.23×10^{0} DrP-64 = 1.01 = 1.01×10^{0} DrP-65 = -0.547 = -5.47×10^{-1}	DrU-61 = -5.94 = -5.94×10^{0} DrU-62 = 0.947 = 9.47×10^{-1} DrU-63 = 0.466 = 4.66×10^{-1} DrU-64 = 1.64 = 1.64×10^{0} DrU-65 = -0.00637 = -6.37×10^{-3}
DrG-61 = 9.40×10^{12} DrG-62 = 7270 = 7.27×10^{3} DrG-63 = -2.67×10^{9} DrG-64 = 0.577 = 5.77×10^{-1} DrG-65 = 48.9 = 4.89×10^{1}	DrL-61 = 1.94×10^{29} DrL-62 = 1.02 = 1.02×10^{0} DrL-63 = -1.10 = -1.10×10^{0} DrL-64 = 1.04 = 1.04×10^{0} DrL-65 = -0.131 = -1.31×10^{-1}	DrQ-61 = 9.64 = 9.64×10^{0} DrQ-62 = 636 = 6.36×10^{2} DrQ-63 = 0.115 = 1.15×10^{-1} DrQ-64 = -0.140 = -1.40×10^{-1} DrQ-65 = -0.0373 = -3.73×10^{-2}	DrV-61 = 92.4 = 9.24×10^{1} DrV-62 = -0.399 = -3.99×10^{-1} DrV-63 = 0.486 = 4.86×10^{-1} DrV-64 = 86400 = 8.64×10^{4} DrV-65 = 14.0 = 1.40×10^{1}
DrH-61 = -0.0859 = -8.59×10^{-2} DrH-62 = 172 = 1.72×10^{2} DrH-63 = 0.993 = 9.93×10^{-1} DrH-64 = 1.13 = 1.13×10^{0}	DrM-61 = 1.83 = 1.83×10^{0} DrM-62 = 0.942 = 9.42×10^{-1} DrM-63 = 0.480 = 4.80×10^{-1} DrM-64 = -0.103 = -1.03×10^{-1}	DrR-61 = -3.72 = -3.72×10^{0} DrR-62 = 404 = 4.04×10^{2} DrR-63 = -4.85 = -4.85×10^{0} DrR-64 = 84.1 = 8.41×10^{1}	DrW-61 = -2.20 = -2.20×10^{0} DrW-62 = 1.34 = 1.34×10^{0} DrW-63 = 3.19 = 3.19×10^{0} DrW-64 = 2.13 = 2.13×10^{0}

DrH-65 = -202 = -2.02×10^{2}	DrM-65 = 0.555 = 5.55×10^{-1}	DrR-65 = -0.210 = -2.10×10^{-1}	DrW-65 = 12.2 = 1.22×10^{1}
DrI-61 = -15.8 = -1.58×10^{1} DrI-62 = 150 = 1.50×10^{2} DrI-63 = 0.456 = 4.56×10^{-1} DrI-64 = -0.286 = -2.86×10^{-1} DrI-65 = -1.03 = -1.03×10^{0}	DrN-61 = 1.32×10^{8} DrN-62 = 69.0 = 6.90×10^{1} DrN-63 = -2.06 = -2.06×10^{0} DrN-64 = 6.03 = 6.03×10^{0} DrN-65 = 0.0218 = 2.18×10^{-2}	DrS-61 = 5.46×10^{9} DrS-62 = -5.03 = -5.03×10^{0} DrS-63 = -1.51 = -1.51×10^{0} DrS-64 = 1.14 = 1.14×10^{0} DrS-65 = 0.143 = 1.43×10^{-1}	DrX-61 = 2.46×10^{6} DrX-62 = 640 = 6.40×10^{2} DrX-63 = -100000 = -1.00×10^{5} DrX-64 = 1.07 = 1.07×10^{0} DrX-65 = 2540 = 2.54×10^{3}

DrY-61 = 8.99 = 8.99×10^{0} DrY-62 = 6800 = 6.80×10^{3} DrY-63 = -1.13 = -1.13×10^{0} DrY-64 = 1.21 = 1.21×10^{0} DrY-65 = 299 = 2.99×10^{2}	DrZ-61 = -13.4 = -1.34×10^{1} DrZ-62 = 6280 = 6.28×10^{3} DrZ-63 = 0.446 = 4.46×10^{-1} DrZ-64 = 3.34 = 3.34×10^{0} DrZ-65 = 0.869 = 8.69×10^{-1}