Some Middle School Mathematics Facts & Problem Types To Know

Get Ready

Get Set

GO !

1 hour =_____minutes **60**

April =_____days **30**

January =_____days **31**

1 mile =_____feet **5280**

1 US$ =_____nickels **20**

1 quart =_____pints **2**

1 yard =_____inches **36**

1 pound =____ ounces **16**

1 year =_____months **12**

1 gallon =_____ cubic inches **231**

1 mile/hour =_____feet/second **22/15**

1 meter = _____centimeters **100**

1 inch =_____centimeters **2.54**

1 kilometer =_____millimeters **1,000,000**

1 mile =_____yards **1760**

1 cup =_____ ounces **8**

1 week =_____ days **7**

1 dime =_____ nickels **2**

1 $ =_____ ¢ **100**

1 tablespoon =_____ ounce **0.5**

1 gallon =_____ ounces **128**

1 quart =_____ ounces **32**

1 square mile _____acres **640**

Area of square formula _____ **$(side)^2$**

Area of circle formula _____ **$\pi(radius)^2$**

Perimeter of scalene triangle formula _____

(side 1) + (side 2) + (side 3)

Circumference of circle formula _____

$\pi(diameter)$

Formula for finding N^{th} triangular number

$N(N + 1)/2$

Number of cards in a card deck **52**

Formula for changing degrees Fahrenheit to degrees Centigrade **$°C = (5/9)(°F - 32)$**

Pythagorean Formula for Right Triangle

$(\text{leg } 1)^2 + (\text{leg } 2)^2 = (\text{hypotenuse})^2$

Formula for Sine of an angle

(side opposite angle)/hypotenuse

Formula for Cosine of an angle

(side adjacent angle)/hypotenuse

Formula for Tangent of an angle

(side opposite angle)/(side adjacent angle)

Formula for perimeter of rhombus **4(side)**

Formula for area of triangle given base and height

(1/2)(base)(height)

Formula for area of rhombus given both diagonals

(1/2)(diagonal 1)(diagonal 2)

Formula for area of trapezoid given both parallel bases and altitude

(1/2)(base 1 + base 2)(altitude)

Formula for perimeter of equilateral triangle

$$3(\text{side})$$

Formula for area of equilateral triangle given side

$$\frac{(\text{side})^2\sqrt{3}}{4}$$

Formula for area of equilateral triangle given altitude

$$\frac{(\text{side})^2\sqrt{3}}{3}$$

Total number of degrees in a triangle **180**

Formula for area of isosceles triangle given base and altitude **(1/2)(base)(altitude)**

Formula for volume of sphere given radius

$$\frac{4}{3}\pi(radius)^3$$

Formula for surface area of sphere given radius

$$4\pi(radius)^2$$

Formula for volume of right cylinder given radius and length

$\pi(\text{radius})^2 \times (\text{length})$

Formula for total surface area of right cylinder given radius and length

$2\pi(\text{radius})\times(\text{radius} + \text{length})$

Formula for volume of cube

$(\text{side})^3$

Formula for surface area of cube

$6(\text{side})^2$

Formula for volume of any right cone or pyramid given base area and altitude

$$\left(\frac{\text{altitude}}{3}\right) \times (\text{area of base})$$

Formula for diagonal of square given side

$$(\text{side})\sqrt{2}$$

Perimeter of rectangle formula

$$2(\text{length} + \text{width})$$

Area of rectangle formula **(length)(width)**

Formula for perimeter of parallelogram given adjacent sides **2(side 1 + side 2)**

Formula for area of parallelogram given parallel sides and altitude **(side)(altitude)**

Formula for perimeter of regular polygon with N sides **(N)(side length)**

Formula for perimeter of square **4(side)**

Simple Probability Formula

(# favorable outcomes)/(total # outcomes)

Simple odds Formula

(# favorable outcomes)/(# unfavorable outcomes)

Formula for series: 2 + 4 + 6 + . . . + 2n

n(n + 1)

Formula for series: 1 + 2 + 3 + . . . + n

(n/2)(n + 1)

Formula for series: $1 + 3 + 5 + \ldots + (2n - 1)$

n^2

What is the GCF of 30 and 42?

6

What is the LCM for 12 and 18

36

Prime factored form of 60

$2^2 \times 3^1 \times 5^1$

elements in power set of {1, 2, a, b}

16

# of smallest squares on a chess board

64

# of elements for {1, 2, 3, 4, 5} ? {2, 4, 5}

5

# of elements for {1, 2, 3, 4, 5} ? {2, 4, 5}

3

18 % of 24 is ___% of 36

12

0.3666 . . . =____fraction

11/30