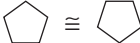


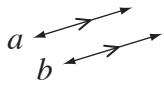




Math Facts

SYMBOLS

<p>$+$ plus or add</p> <p>$-$ minus or subtract</p> <p>\times multiplied by, times, lots of</p> <p>\div divided by, into groups of</p> <p>$=$ equals, is equal to</p> <p>\neq is not equal to</p> <p>\approx is approximately equal to</p> <p>$<$ is less than, $4 < 6$</p> <p>$>$ is greater than, $8 > 5$</p> <p>\leq is less than or equal to</p> <p>\geq is greater than or equal to</p> <p>\cong is congruent to, </p> <p>\sim is similar to, </p> <p>\cap intersects</p> <p>\parallel is parallel to</p> <p>\perp is perpendicular to</p> <p>$\%$ percent, $12\% = \frac{12}{100}$</p> <p>\cdot decimal point as in 7.9</p> <p>$^\circ$ degree, a right angle measures 90°</p> <p>l length</p> <p>w width</p> <p>h height</p> <p>b base length</p> <p>P perimeter</p> <p>r radius</p> <p>C circumference</p> <p>A area</p> <p>V volume</p>	<p>6^3 6 raised to the 3rd power, $6 \times 6 \times 6$</p> <p>$\sqrt{9}$ square root of 9</p> <p>$()$ parentheses, or brackets - a grouping symbol</p> <p>$\frac{4}{7}$ fraction, $4 \div 7$, four sevenths</p> <p>$3x$ 3 times x, 3 lots of x, $3(x)$</p> <p>$a:b$ ratio of a to b</p> <p>-3 negative 3</p> <p>π pi, ≈ 3.14 or $\frac{22}{7}$</p> <p>ratio of the circumference to the diameter of a circle</p> <p>$\triangle ABC$ triangle with vertices A, B and C</p> <p> right angle</p> <p>\overleftrightarrow{AD} line</p> <p>\overline{BC} segment</p> <p>(a,b) ordered pair with x-coordinate a and y-coordinate b</p> <p> line a is parallel to line b</p> <p> equal angles</p> <p> equal side lengths</p>
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MEASURES - metric

Length

10 millimeters (mm) = 1 centimeter (cm)

$$\begin{array}{l} 100 \text{ cm} = \\ 1000 \text{ mm} = \end{array} \left. \vphantom{\begin{array}{l} 100 \\ 1000 \end{array}} \right] 1 \text{ meter (m)}$$

1000 m = 1 kilometer (km)

Mass

1000 milligrams (mg) = 1 gram (g)

1000 g = 1 kilogram (kg)

1000 kg = 1 tonne (t)

Liquid Capacity

$$\begin{array}{l} 1000 \text{ milliliters (mL)} = \\ 1000 \text{ cm}^3 = \end{array} \left. \vphantom{\begin{array}{l} 1000 \\ 1000 \end{array}} \right] 1 \text{ liter (L)}$$

1000 L = 1 kiloliter (kL)

MEASURES - customary

Length

12 inches (in.) = 1 foot (ft)

$$\begin{array}{l} 3 \text{ ft} = \\ 36 \text{ in.} = \end{array} \left. \vphantom{\begin{array}{l} 3 \\ 36 \end{array}} \right] 1 \text{ yard (yd)}$$

$$\begin{array}{l} 5280 \text{ ft} = \\ 1760 \text{ yd} = \end{array} \left. \vphantom{\begin{array}{l} 5280 \\ 1760 \end{array}} \right] 1 \text{ mile (mi)}$$

Mass

16 ounces (oz) = 1 pound (lb)

2000 lb = 1 ton (t)

Liquid Capacity

8 fluid ounces (fl oz) = 1 cup (c)

2 c = 1 pint (pt)

2 pt = 1 quart (qt)

4 qt = 1 gallon (gal)

Temperature - degrees Celsius (°C)

0°C = freezing point of water

37°C = human body temperature

100°C = boiling point of water

Area

100 square mm (mm²) = 1 square cm (cm²)

10,000 cm² = 1 square meter (m²)

10,000 m² = 1 hectare (ha)

1,000,000 m² = 1 square km (km²)

Volume

1000 cubic mm (mm³) = 1 cubic cm (cm³)

1,000,000 cm³ = 1 cubic meter (m³)

Temperature - degrees Fahrenheit (°F)

32°F = freezing point of water

98.6°F = human body temperature

212°F = boiling point of water

60 seconds (s) = 1 minute (min)

60 minutes (min) = 1 hour (h)

24 hours = 1 day

7 days = 1 week

4 weeks (approx.) = 1 month

$$\begin{array}{l} 365 \text{ or } 366 \text{ days} = \\ 52 \text{ weeks (approx.)} = \\ 12 \text{ months} = \end{array} \left. \vphantom{\begin{array}{l} 365 \\ 52 \\ 12 \end{array}} \right] 1 \text{ year}$$

10 years = 1 decade

100 years = 1 century

ZERO

Adding and subtracting 0

Adding and subtracting 0 to any number leaves the number unchanged.

$$3 + 0 = 3$$

$$3 - 0 = 3$$

$$2.5 + 0 = 2.5$$

$$2.5 - 0 = 2.5$$

$$\frac{4}{9} + 0 = \frac{4}{9}$$

$$\frac{4}{9} - 0 = \frac{4}{9}$$

Multiplying by 0

The product of any number and 0 is 0.

$$7 \times 0 = 0$$

$$81.6 \times 0 = 0$$

$$\frac{3}{5} \times 0 = 0$$

0 used in decimals

0's can be added when needed after the decimal point of a number.

$$4 = 4.000$$

0's can be added when needed before the first digit of any number.

$$4 = 4.0 = 0004.0$$

By convention, decimal numbers less than 1 are written with a zero before the decimal point.

$$.4 = 0.4$$

0 as a probability

When the probability of an event is 0, the event is 'impossible'.

0 in words

Some of the words used to represent zero 0 are: nought, nil, none, nothing, zilch, zip.

Dividing by 0

Dividing by 0 is meaningless.

$4 \div 0$, $\frac{3}{0}$ are meaningless operations.

Power of 0

Any number raised to the power of 0 is 1.

$$1^0 = 1$$

$$(0.5)^0 = 1$$

$$(-24)^0 = 1$$

0 as the result of a sum

The sum of any number, except zero, and its opposite is 0.

$$4 + (-4) = 0$$

$$2.6 + (-2.6) = 0$$

$$\frac{5}{8} + \left(-\frac{5}{8}\right) = 0$$

0 facts

0 is a whole number and a digit but is neither a positive nor a negative number.

ONE

Multiplying by 1

1 Any number multiplied by **1** remains unchanged.

$$3 \times 1 = 3$$

$$2.5 \times 1 = 2.5$$

$$\frac{4}{9} \times 1 = \frac{4}{9}$$

Dividing by 1

1 Any number divided by **1** remains unchanged.

$$7 \div 1 = 7$$

$$81.6 \div 1 = 81.6$$

$$\frac{3}{5} \div 1 = \frac{3}{5}$$

1 as a fraction

1 can be renamed as a fraction whenever the numerator is the same as the denominator.



$$1 = \frac{2}{2}$$



$$1 = \frac{3}{3}$$



$$1 = \frac{4}{4}$$



$$1 = \frac{5}{5}$$

Power of 1

1 Any number raised to the power of **1** remains unchanged.

$$7^1 = 7$$

$$(6.8)^1 = 6.8$$

$$(-4)^1 = -4$$

1 as a probability

When the probability of an event is **1**, the event is 'certain' to happen.

1 as a percent

1 is the same as 100%.

$$1 = \frac{100}{100} = 100\%$$

1 as a denominator

Any whole number can be written as a fraction with denominator **1**.

$$20 = \frac{20}{1}$$

1 as the result of a product

The product of any number, except zero, and its reciprocal is **1**.

$$4 \times \frac{1}{4} = 1$$

1 in words

Some of the words used to represent the digit **1** are:
one, a, an, each, single, unit.

1 facts

1 is a whole number and a digit, but not a prime number.

1 is a factor of any whole number.