Grade 6 Mathematics
Vocabulary Word Wall Cards

Mathematics vocabulary word wall cards provide a display of mathematics content words and associated visual cues to assist in vocabulary development. The cards should be used as an instructional tool for teachers and then as a reference for all students. **The cards are designed for print use only.**

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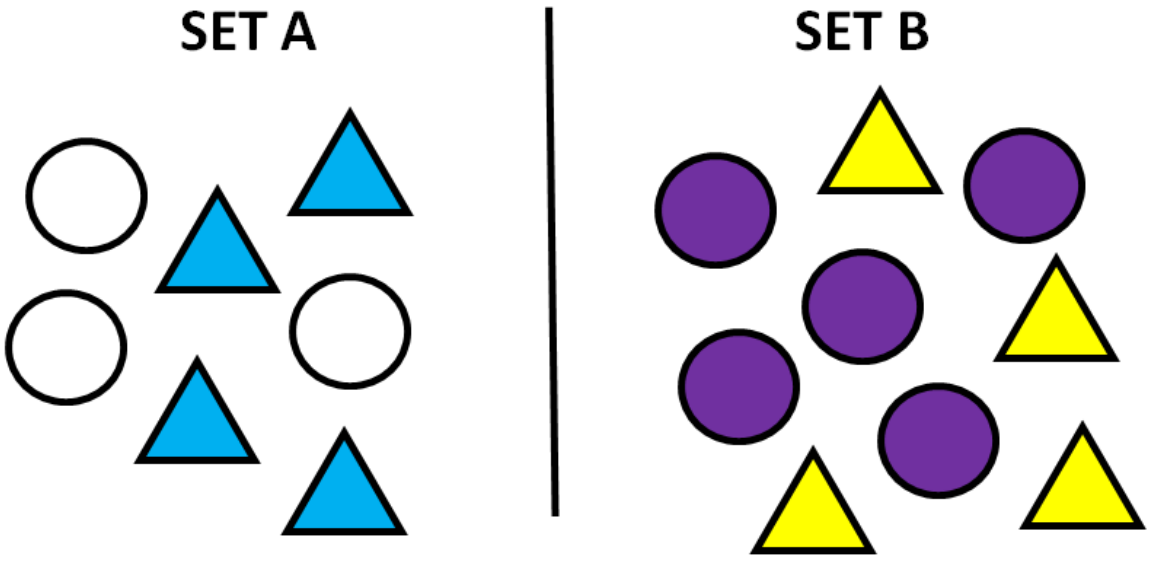
Ratio

a comparison of any two quantities



▲ to ○	**4 to 3 or 4:3**
▲ to all of set A	**4 to 7 or 4:7 or $\frac{4}{7}$**
○ (set A) to ● (set B)	**3 to 5 or 3:5**
set B to set A	**9 to 7 or 9:7**

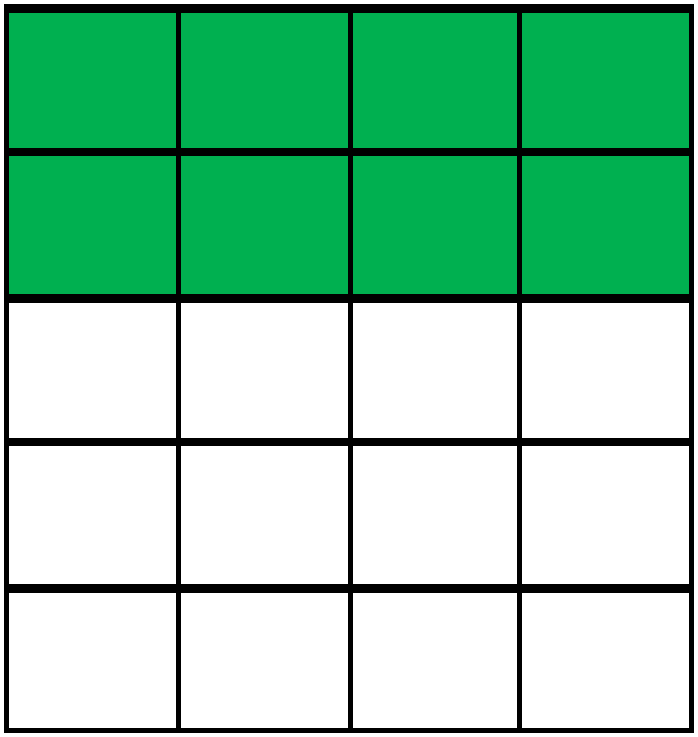
Equivalent Relationships

$$56\% = \frac{56}{100} = \frac{14}{25} = 0.56$$

$$2\frac{4}{9} = 2.444\ldots = 244.\overline{4}\%$$

$$1.8 = 180\% = \frac{180}{100} = 1\frac{4}{5}$$

Equivalent Relationships



Fraction: $\frac{8}{20} = \frac{2}{5}$

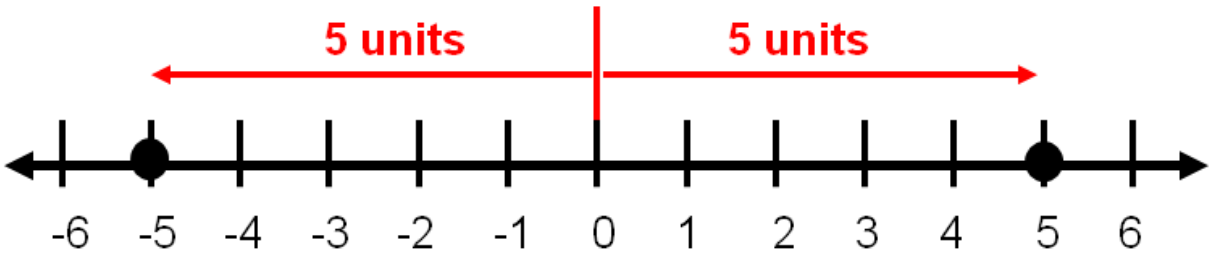
Decimal: 0.4

Percent: 40%

Absolute Value

distance a number is from zero

$|5| = 5 \quad |-5| = 5$



Perfect Squares

$0^2 = 0 \cdot 0 = \mathbf{0}$

$1^2 = 1 \cdot 1 = \mathbf{1}$

$2^2 = 2 \cdot 2 = \mathbf{4}$

$3^2 = 3 \cdot 3 = \mathbf{9}$

$4^2 = 4 \cdot 4 = \mathbf{16}$

$5^2 = 5 \cdot 5 = \mathbf{25}$

$6^2 = 6 \cdot 6 = \mathbf{36}$

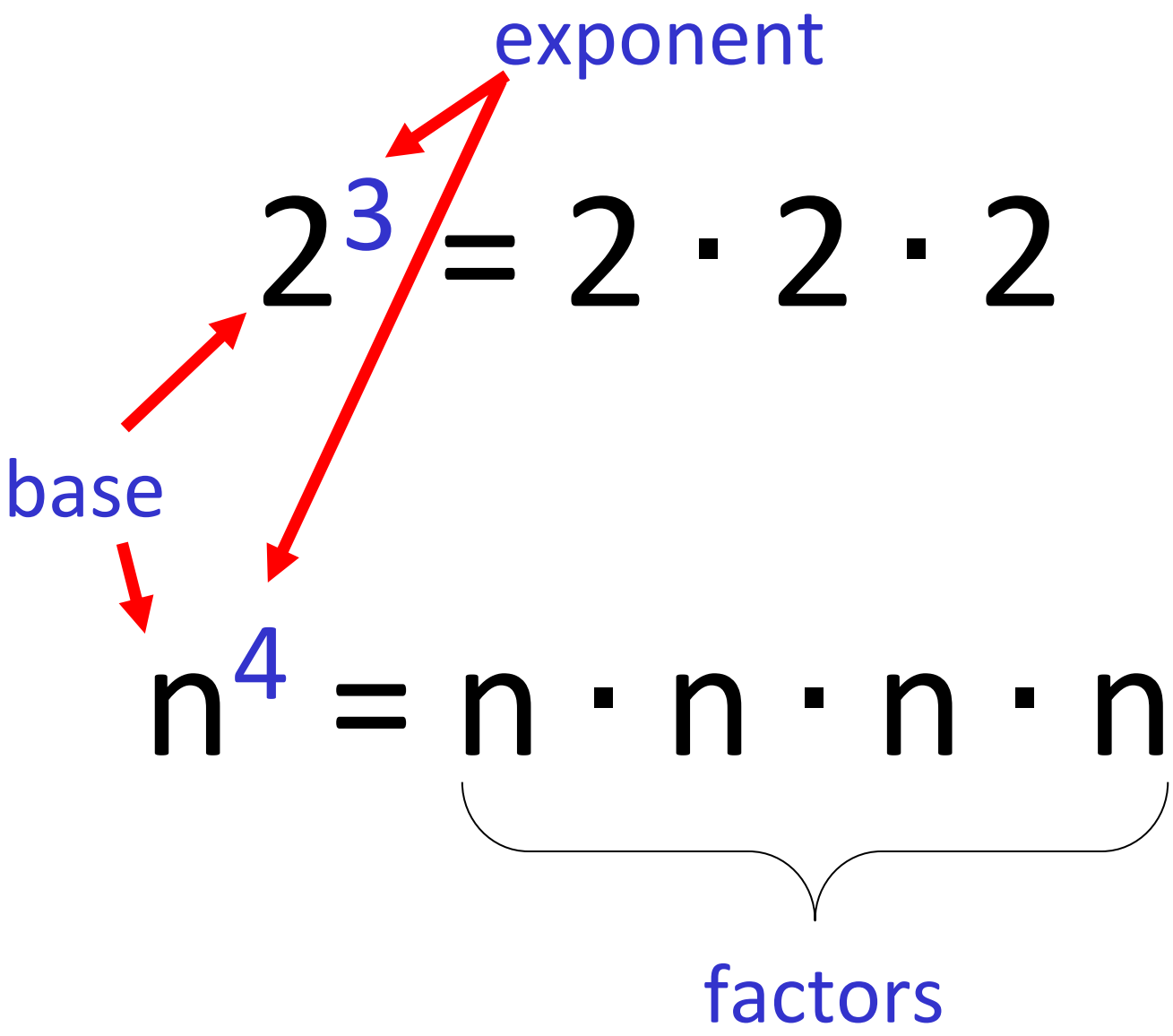
$7^2 = 7 \cdot 7 = \mathbf{49}$

$8^2 = 8 \cdot 8 = \mathbf{64}$

$9^2 = 9 \cdot 9 = \mathbf{81}$

$10^2 = 10 \cdot 10 = \mathbf{100}$

Exponential Form

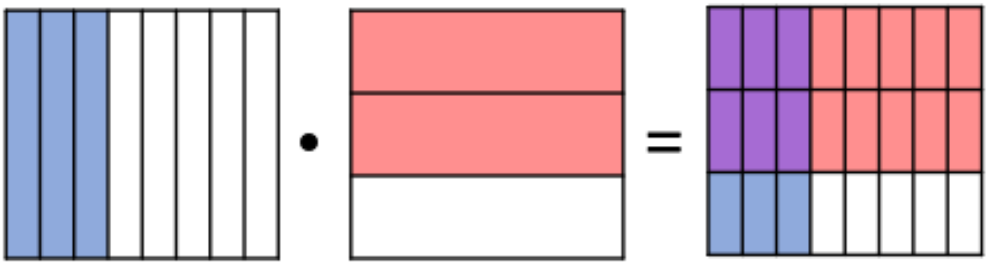


Powers of Ten

Power of Ten	Meaning	Value
10^5	$10 \cdot 10 \cdot 10 \cdot 10 \cdot 10$	100,000 *One hundred thousand*
10^4	$10 \cdot 10 \cdot 10 \cdot 10$	10,000 *Ten thousand*
10^3	$10 \cdot 10 \cdot 10$	1,000 *One thousand*
10^2	$10 \cdot 10$	100 *One hundred*
10^1	10	10 *Ten*
10^0	1	1 *One*

Fraction Multiplication

How much is $\frac{3}{8}$ of $\frac{2}{3}$?



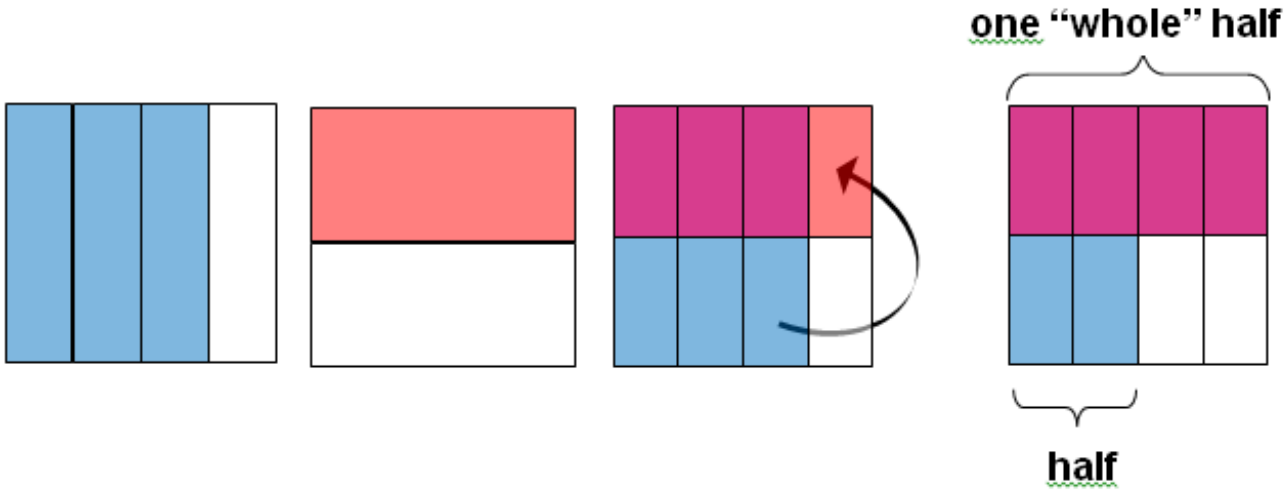
$$\frac{3}{8} \cdot \frac{2}{3} = \frac{6}{24}$$

$$\frac{3}{8} \cdot \frac{2}{3} = \frac{6}{24} = \frac{1}{4}$$

Fraction Division

$$\frac{3}{4} \div \frac{1}{2}$$

How many halves are in three-fourths?

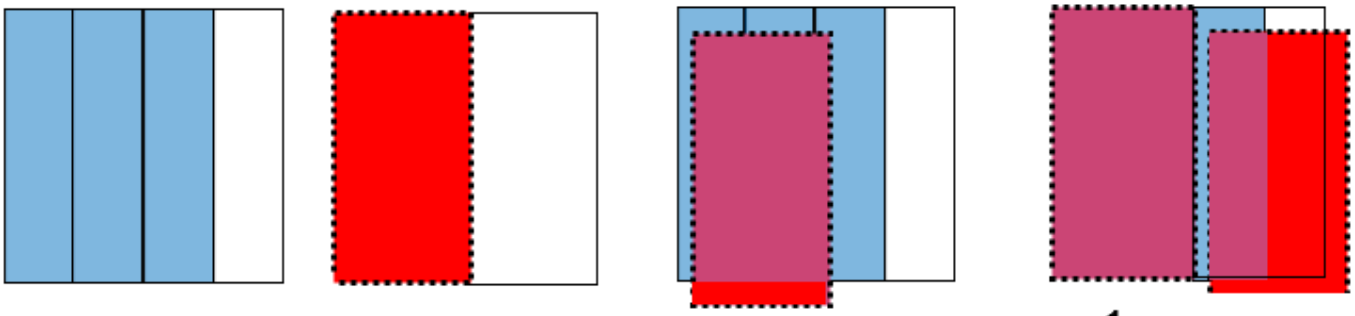


$$\frac{3}{4} \div \frac{1}{2} = 1\frac{1}{2}$$

Fraction Division

$$\frac{3}{4} \div \frac{1}{2}$$

How many halves are in three-fourths?



There are $1\frac{1}{2}$ halves in three-fourths.

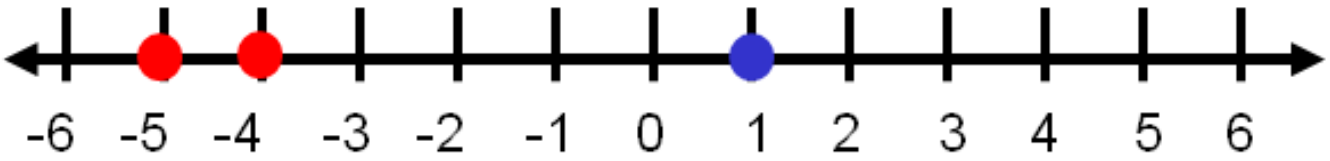
$$\frac{3}{4} \div \frac{1}{2} = 1\frac{1}{2}$$

Multiplication and Division of Decimals

Multiplier	Multiply	Value
1	$27 \cdot 1$	27
0.1	$27 \cdot 0.1$	2.7
0.01	$27 \cdot 0.01$	0.27
0.001	$27 \cdot 0.001$	0.027

Divisor	Divide	Value
1	$27 \div 1$	27
0.1	$27 \div 0.1$	270
0.01	$27 \div 0.01$	2,700
0.001	$27 \div 0.001$	27,000

Comparing Integers



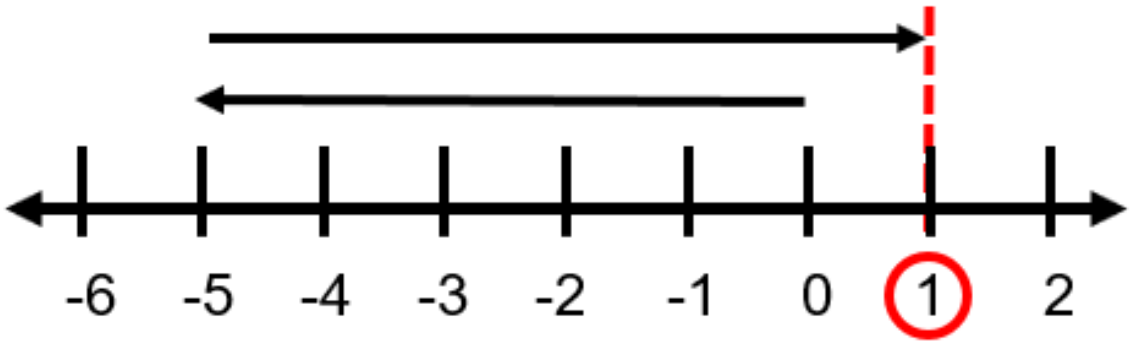
$-5 < 1$ or $1 > -5$

$-5 < -4$ or $-4 > -5$

Integer Operations

Addition

-5 + 6 = 1



Subtraction

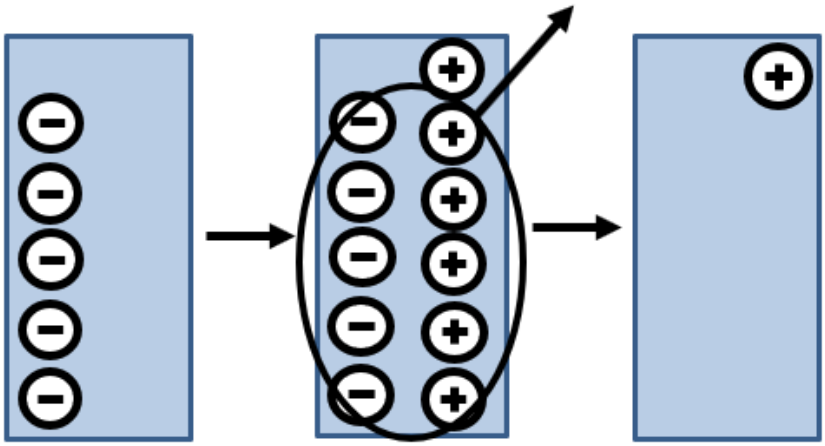
1 – 6 = -5

Integer Operations

Key: ⊕ = positive 1 ⊖ = negative 1  = 0 pair

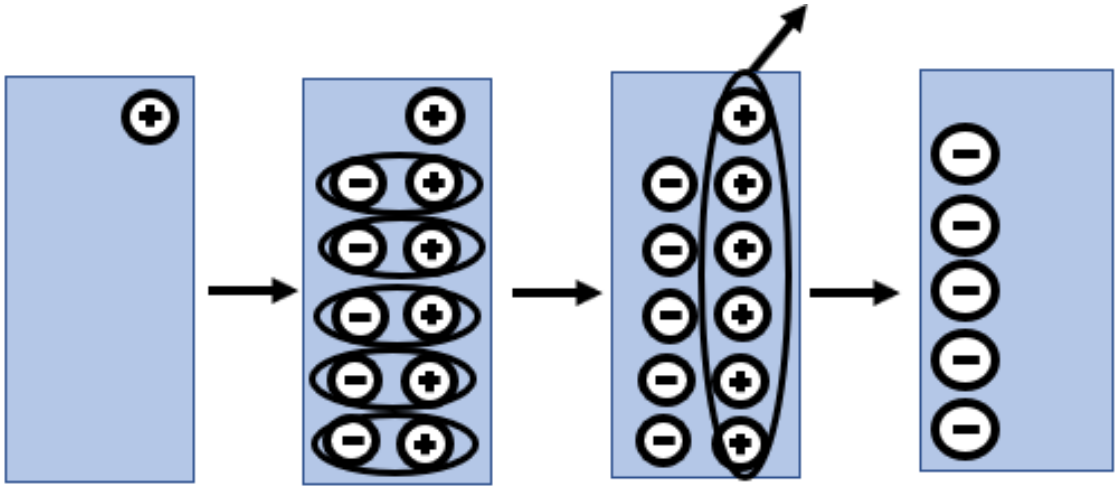
Addition

-5 + 6 = 1



Subtraction

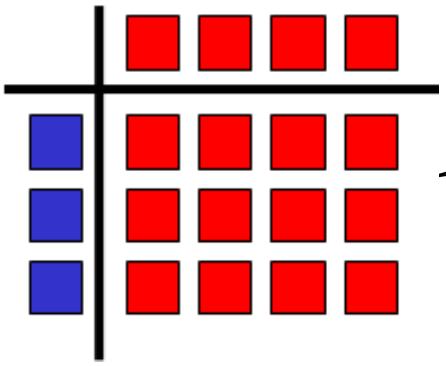
1 – 6 = -5



Integer Operations

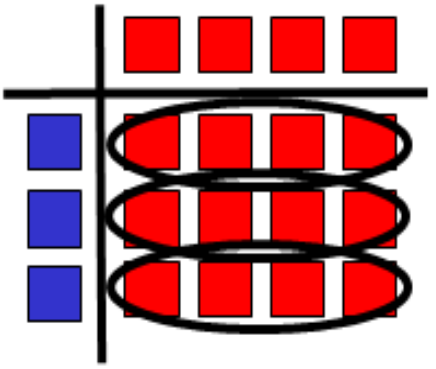
Multiplication

$3 \cdot (-4) = -12$

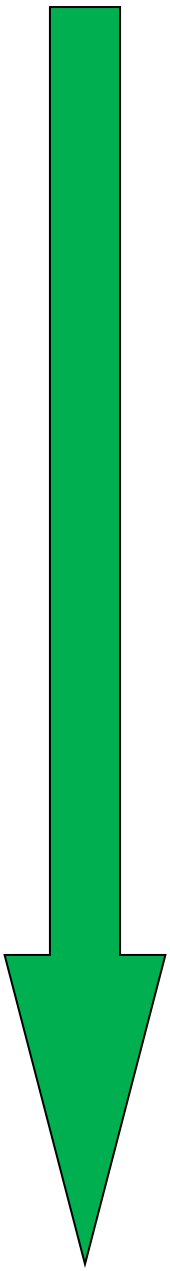


Division

$-12 \div -4 = 3$



Order of Operations



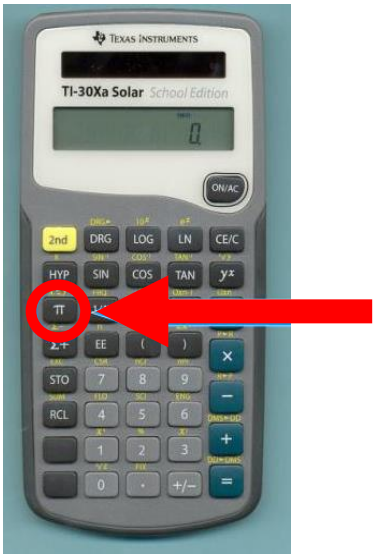
Grouping Symbols } ( ) | | –

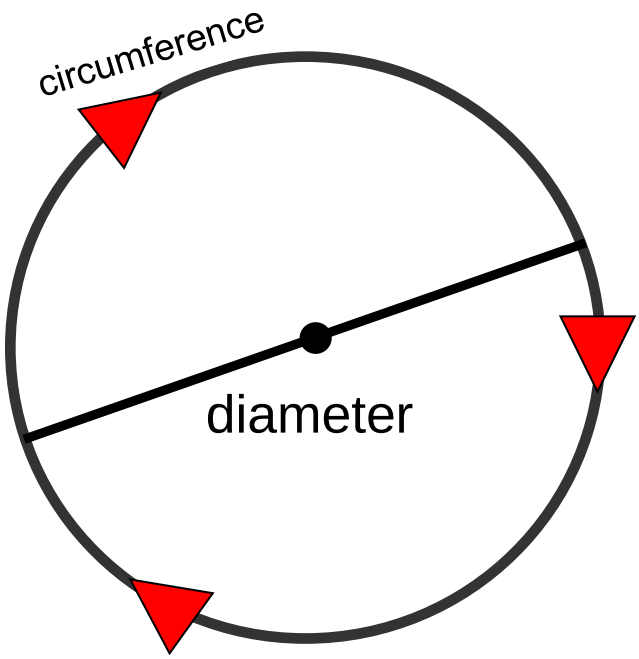
Exponents

Multiplication or Division } Left to right

Addition or Subtraction } Left to right

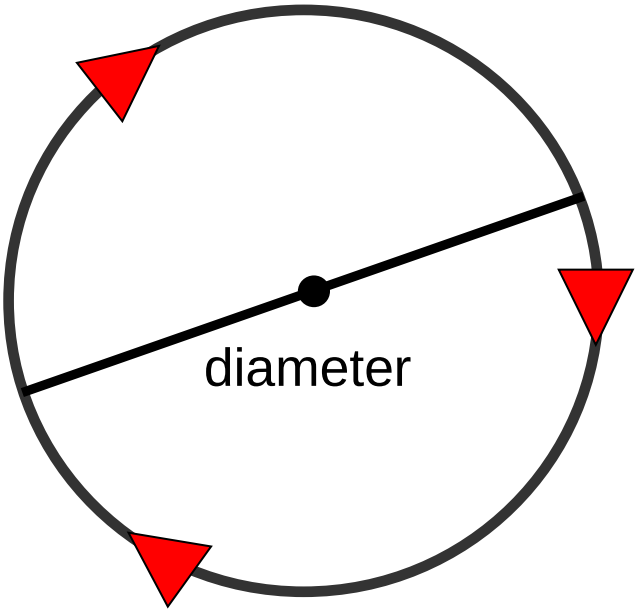
Pi

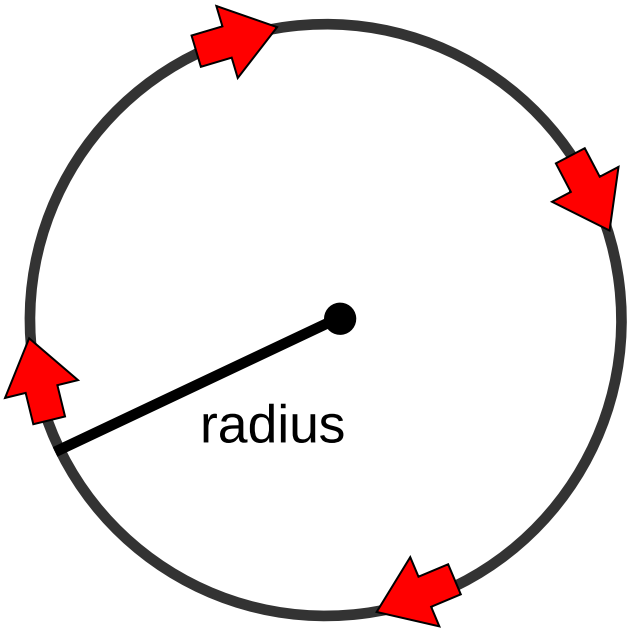
π approx	3.14159…
	3.14
	$\frac{22}{7}$
	



$$\pi = \frac{\text{circumference}}{\text{diameter}}$$

Circumference



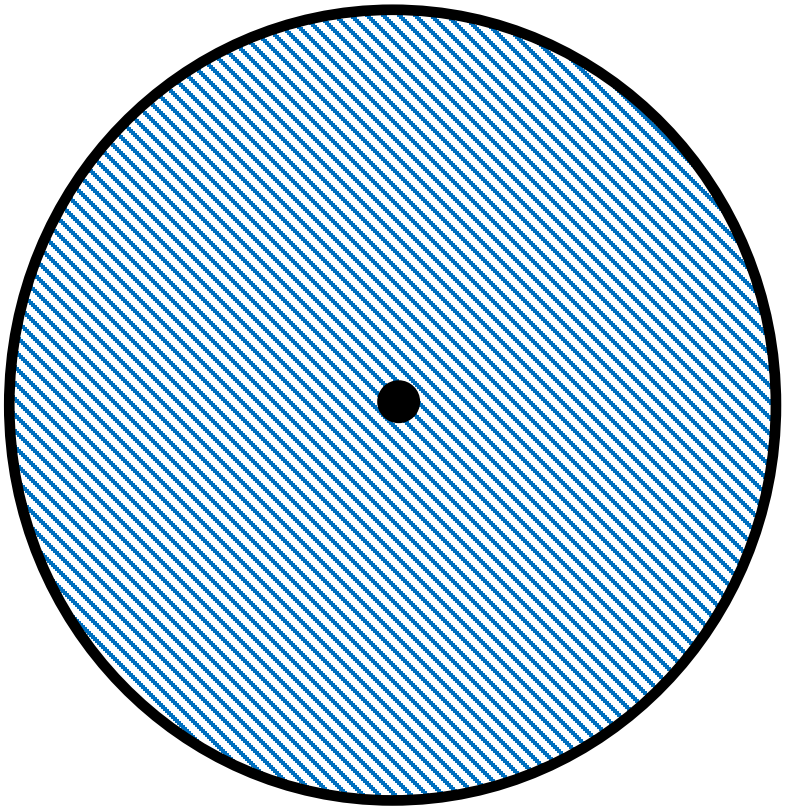


$C = \pi d$

$C = 2\pi r$

C = perimeter of a circle

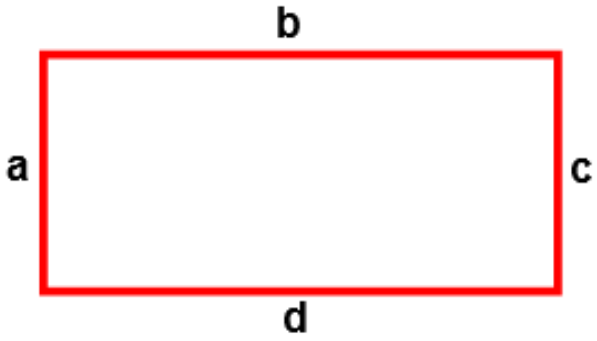
Area of a Circle



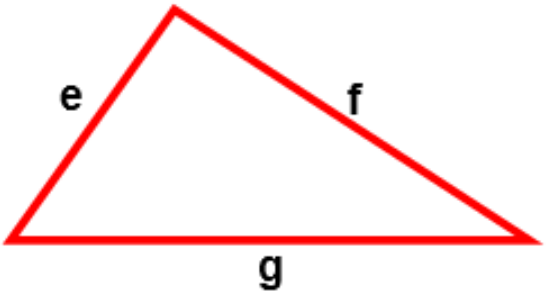
$$A = \pi r^2$$

Perimeter

the measure of the distance around a figure



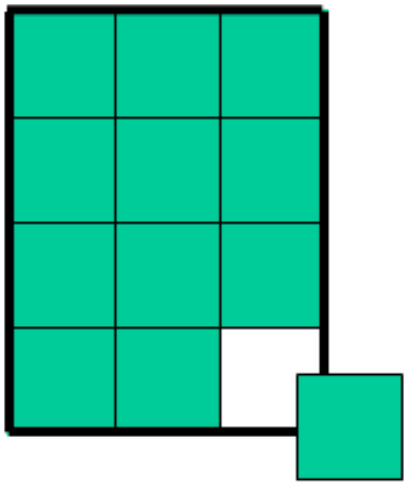
P = a + b + c + d



P = e + f + g

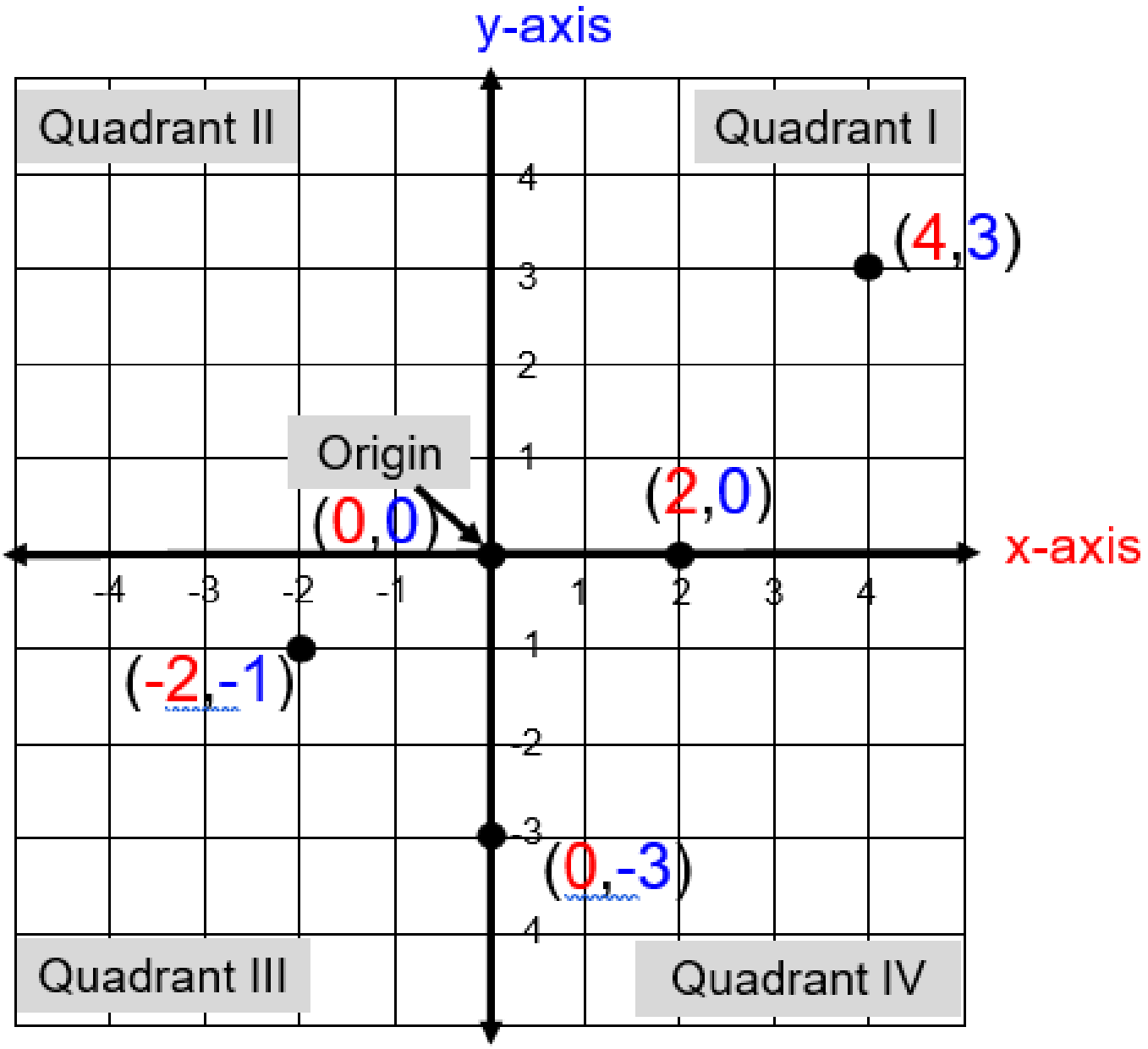
Area

the number of square units needed to cover a surface or figure



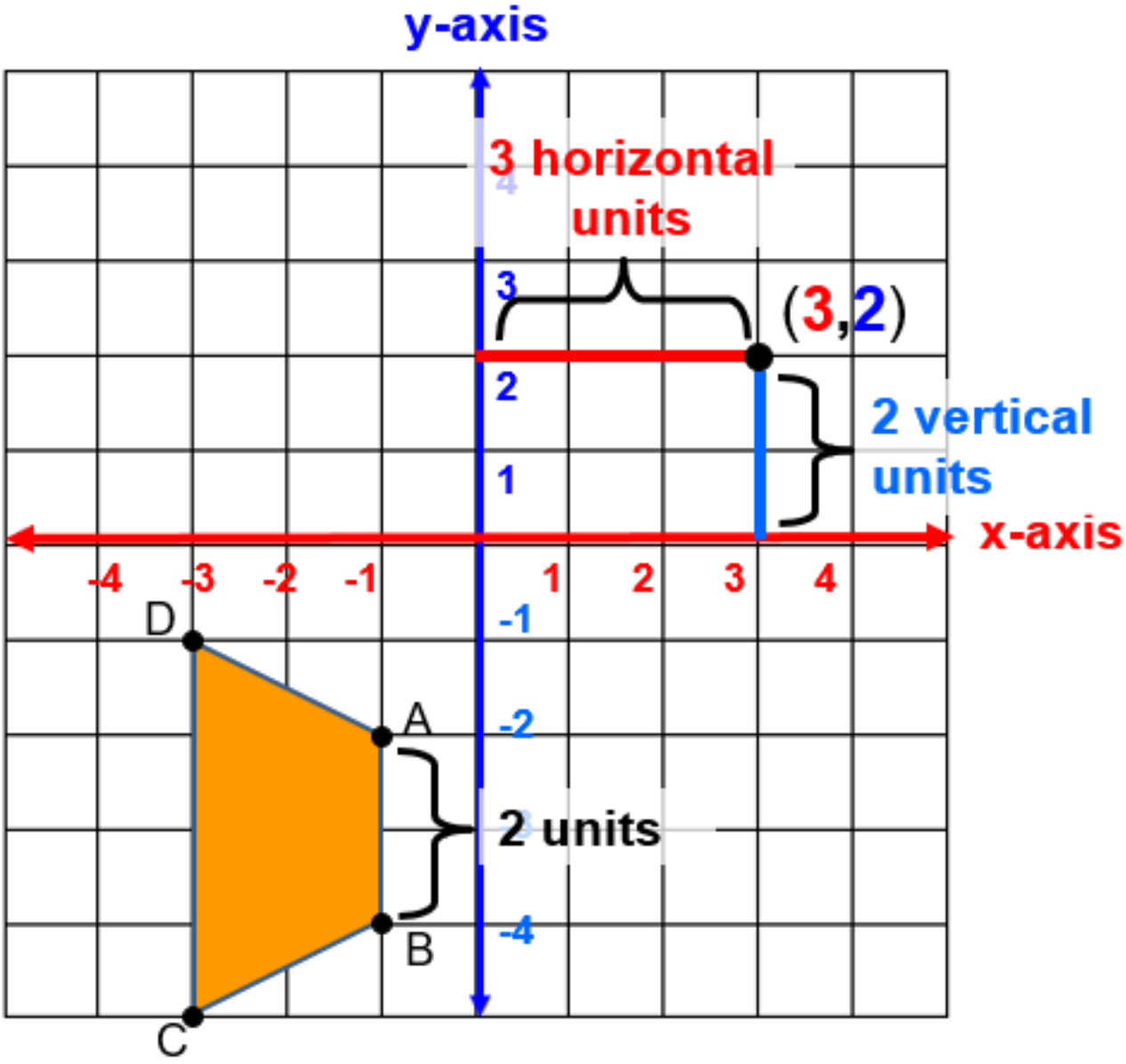
Area = 12 Square Units

Coordinate Plane



ordered pair (*x*,y)

Coordinate Plane



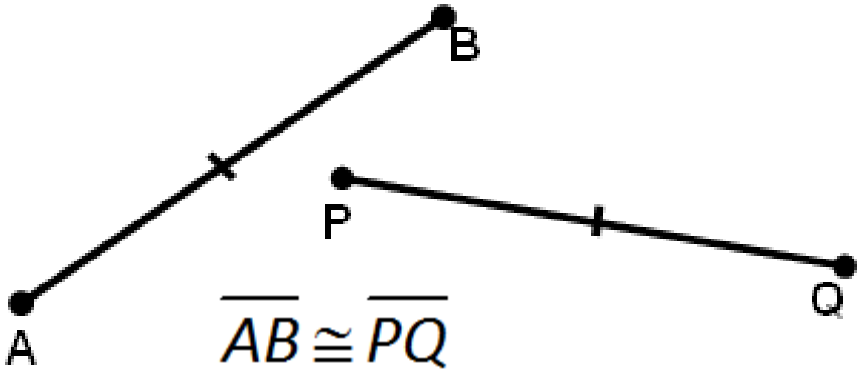
What is the length of side AB in the figure ABCD?

A(-1,-2) and B(-1,-4)

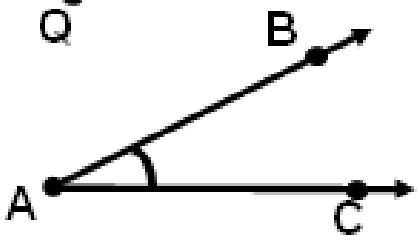
The length of AB is |-2 – (-4)| or |-4 – (-2)| or 2 units.

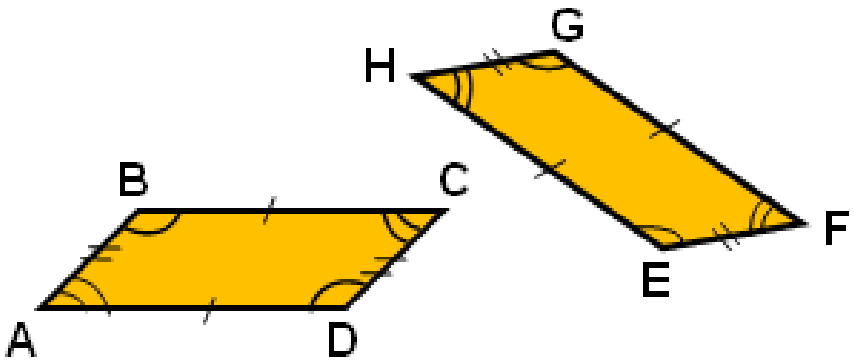
Congruent Figures

have exactly the same shape and size

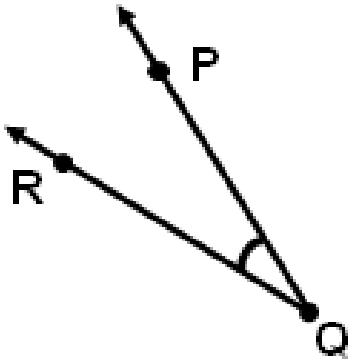


$\overline{AB} \cong \overline{PQ}$





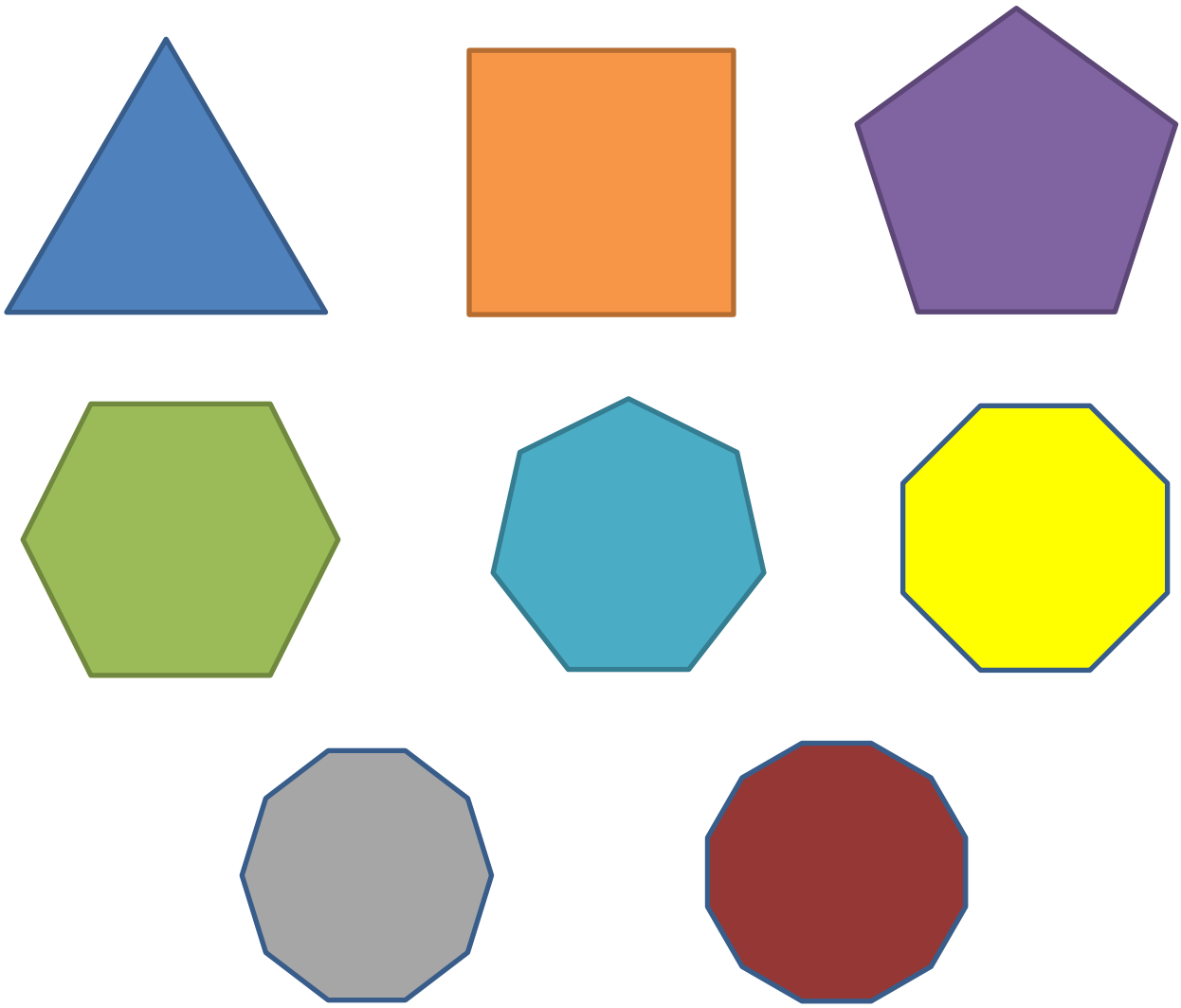
$\square ABCD \cong \square HGFE$



$\angle BAC \cong \angle PQR$

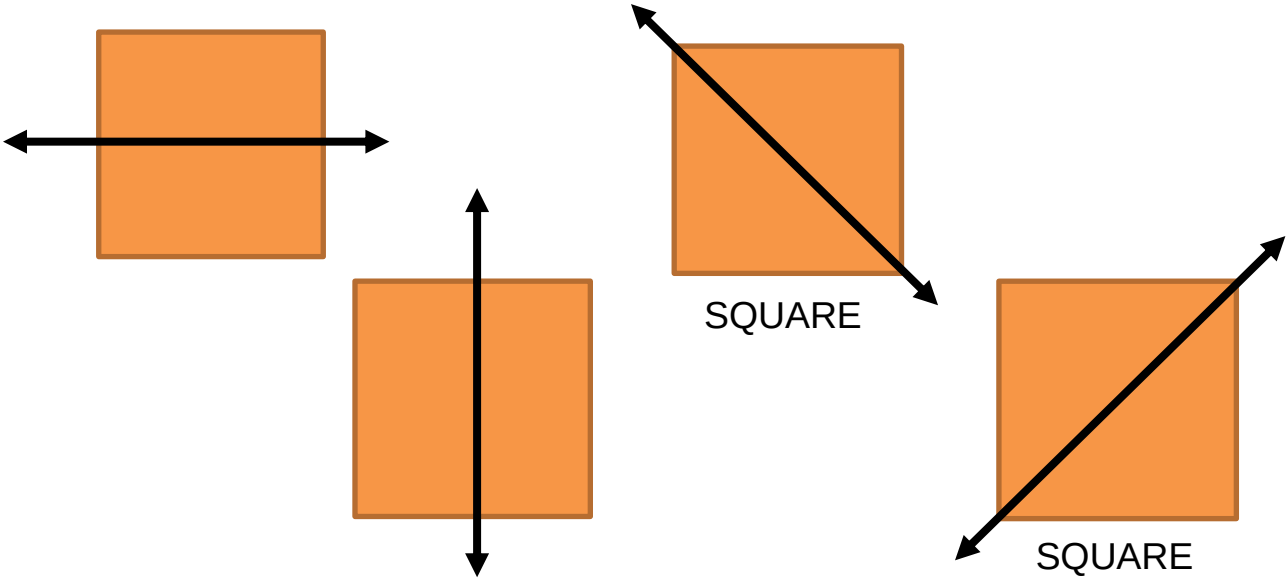
Regular Polygons

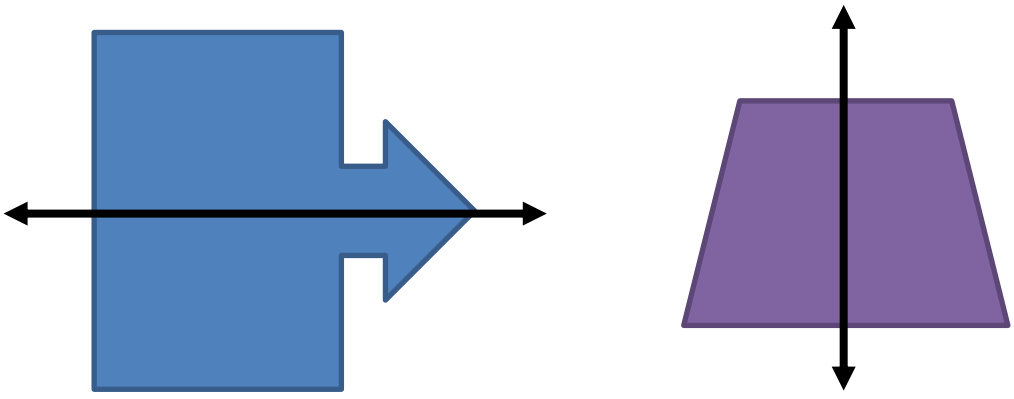
have congruent sides and congruent interior angles



Line of Symmetry

divides a figure into two congruent parts, each of which are mirror images of the other



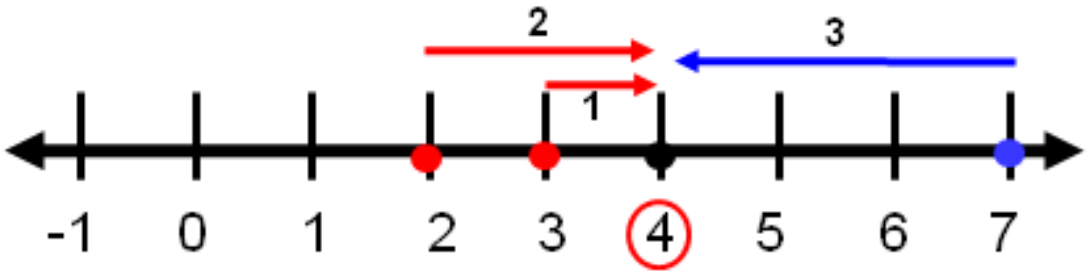


Mean

a measure of central tendency (the numerical average of a data set)

2, 3, 4, 7

Balance Point



$$\frac{2+3+4+7}{4} = \frac{16}{4} = 4$$

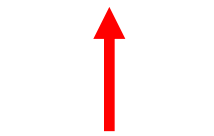
Median

a measure of central tendency (the middle value of a data set ranked in order)

6, 7, 8, 9, 9

8 = median

5, 6, 8, 9, 11, 12



8.5 = median

Mode

a measure of central tendency (the data value that occurs most frequently)

Data Sets	Mode
2, 3, 3, 3, 5, 5, 9, 10	3
5.2, 5.4, 5.5, 5.6, 5.8, 5.9, 6.0	none
1, 1, 2, 5, 6, 7, 7, 9, 11, 12	1, 7

bimodal

Range

difference between the greatest and least values in a data set

Data set

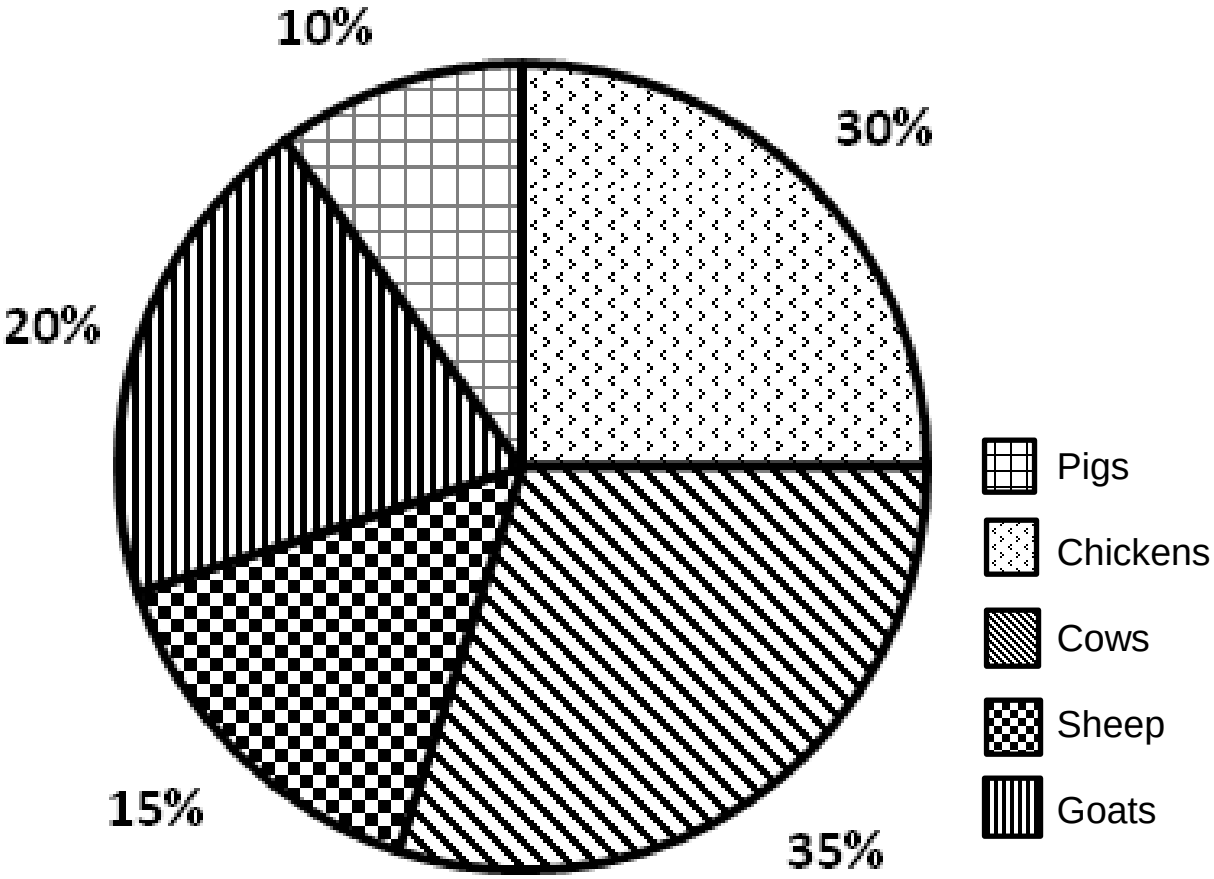
$2\frac{1}{2}$, 3, $3\frac{3}{4}$, $3\frac{7}{8}$, 5, $5\frac{1}{2}$, $9\frac{1}{6}$, $10\frac{4}{5}$, $15\frac{1}{2}$, 20

$$20 - 2\frac{1}{2} = 17\frac{1}{2}$$

$$\text{Range} = 17\frac{1}{2}$$

Circle Graph

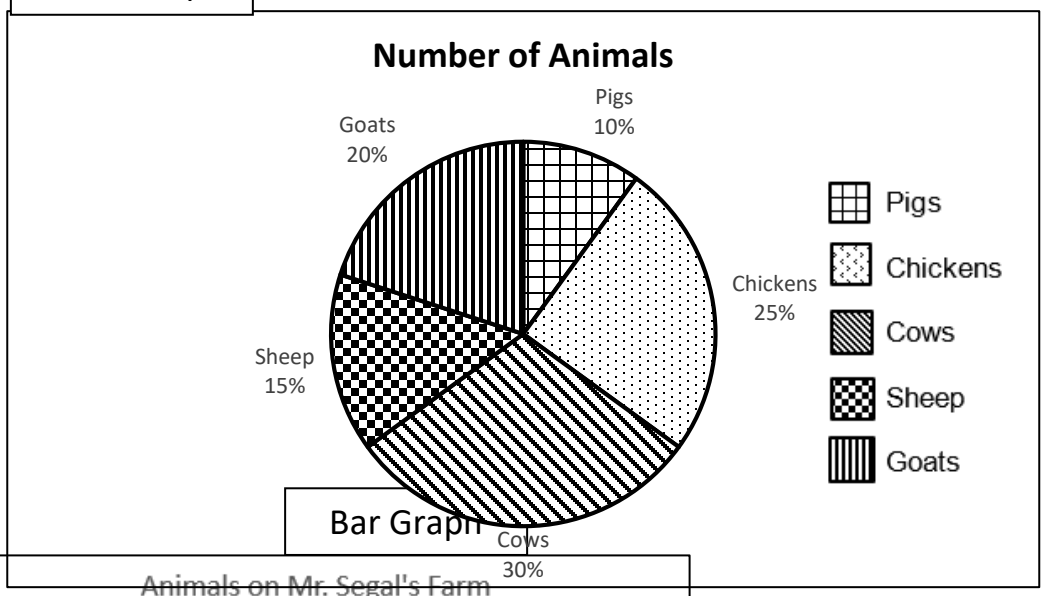
Types of Animals on Mr. Segal's Farm



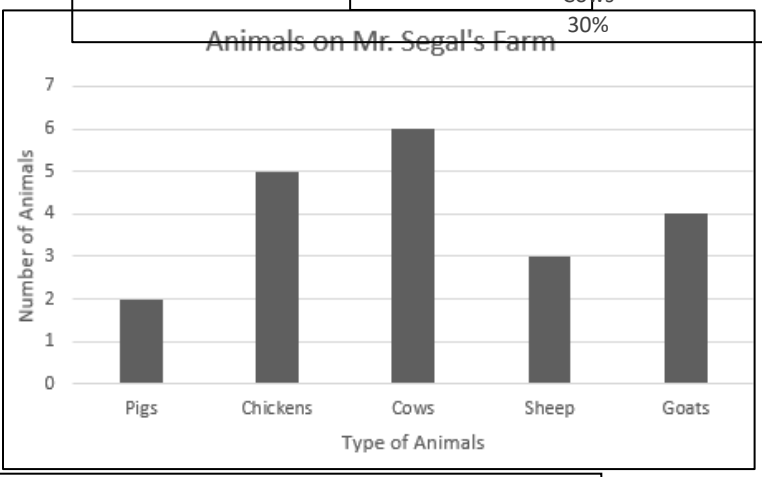
Comparing Graphs

Types of Animals on Mr. Segal's Farm

Circle Graph



Bar Graph

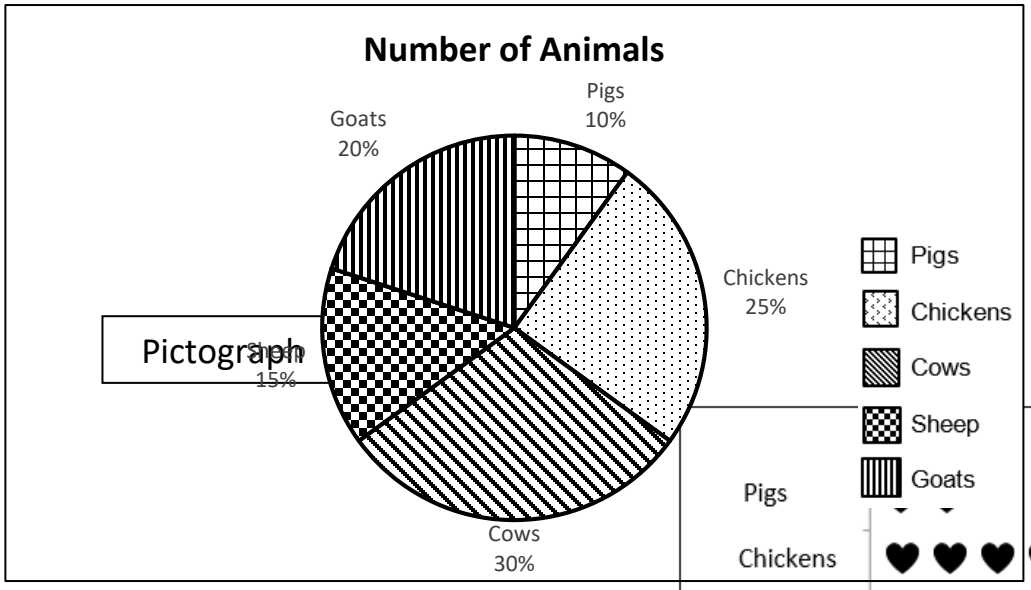


ost common on Mr. Segal's farm?
Segal's farm?
r of animals on Mr. Segal's farm?
f animals there are 3 or more?
nimals with four legs?

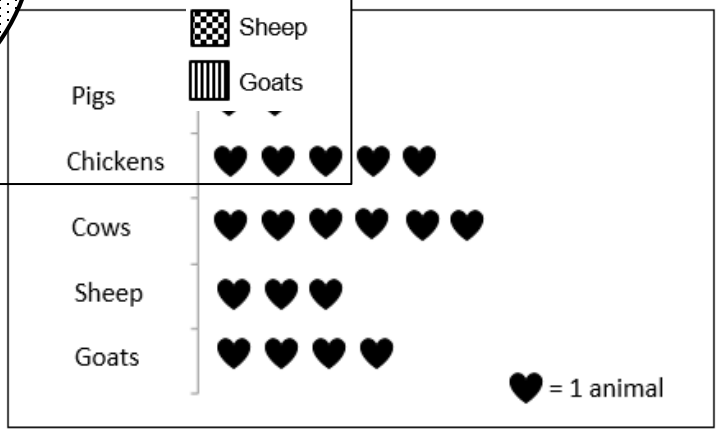
Comparing Graphs

Types of Animals on Mr. Segal's Farm

Circle Graph



Pictograph



Which graph(s) shows the type of animal t

Which graph(s) shows how many pigs are

Which graph(s) help(s) determine the total

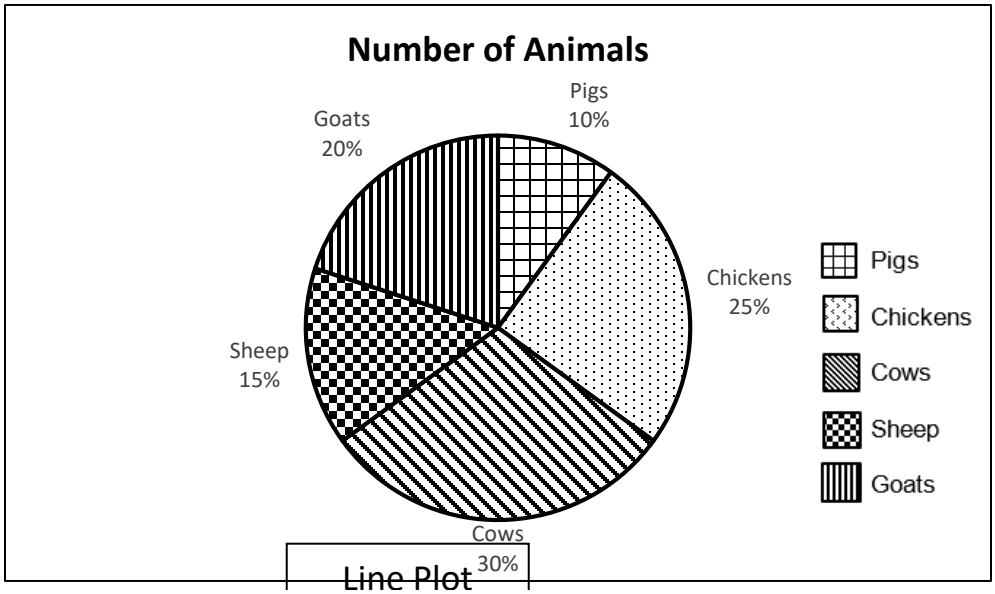
Which graph(s) help(s) determine for which type of animals there are 3 or more?

Which graph(s) help(s) determine the percent of animals with four legs?

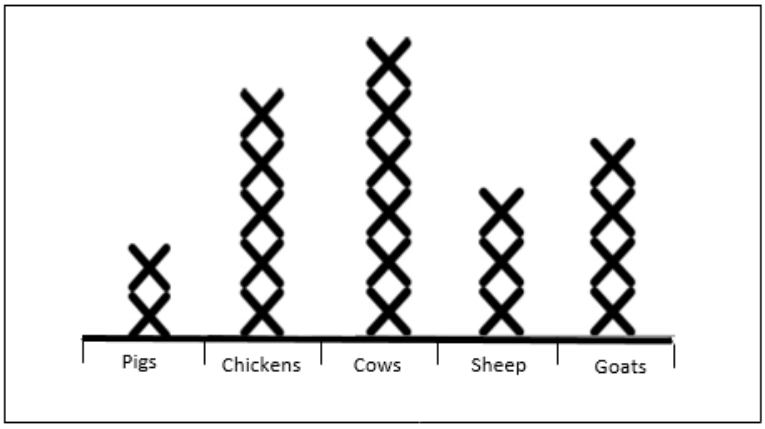
Comparing Graphs

Types of Animals on Mr. Segal's Farm

Circle Graph



Line Plot



ost common on Mr. Segal's farm?
Segal's farm?
r of animals on Mr. Segal's farm?
f animals there are 3 or more?
nimals with four legs?

Ratio Table

a table of values representing a proportional relationship that includes pairs of equivalent ratios

The ratio of *y* to *x* in a proportional relationship is 8:4, create a ratio table.

x	*y*
1	2
2	4
3	6
4	8
11	22

$$\frac{y}{x} = \frac{2}{1} = \frac{6}{3} = \frac{8}{4} = \frac{22}{11}$$

Proportional Relationship

Ratio Table Example

Terry's neighbor pays him $17 for every 2 hours he works. Terry works for 8 hours on Saturday.

A ratio table represents the proportional relationship:

Hours	1	2	4	8
Pay in $	?	17	34	?

$\cdot 8.5$ $\cdot 8.5$

How much does Terry earn per hour?

$\frac{17}{2} = \frac{?}{1}$ Terry earns $8.50 per hour

How much will Terry earn in 8 hours?

$\$8.50 \cdot 8 = 68.00$ He will earn $68.00 in 8 hours.

Unit Rate

number of units of the first quantity of a ratio compared to 1 unit of the second quantity

Example: A store advertises $25 for 5 DVDs. Find the cost for 1 DVD or unit rate.

$$\frac{25}{5} = \frac{?}{1}$$

The unit rate is $5.00 for 1 DVD

Unit Rate

Examples

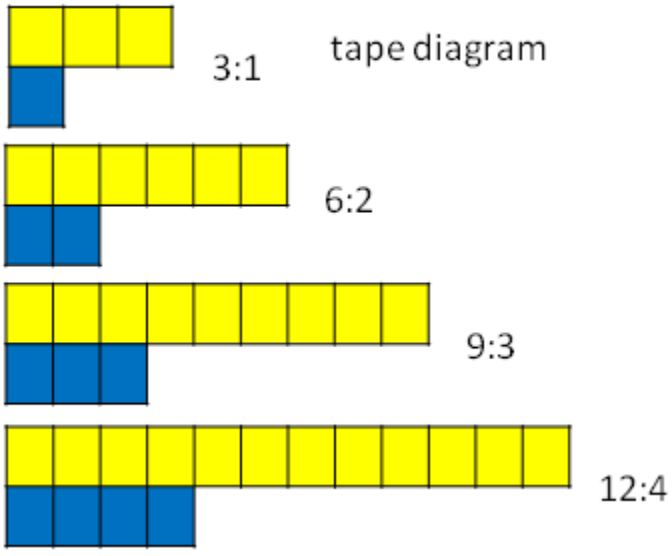
$$\$2 \text{ per gallon} = \frac{\$2}{1 \text{ gallon}}$$

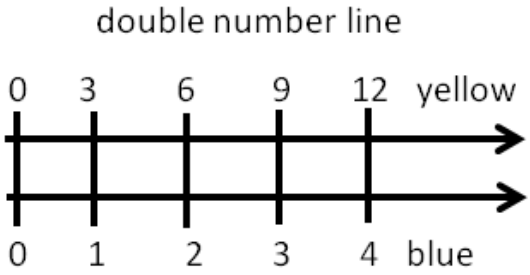
$$70 \text{ miles per hour} = \frac{70 \text{ miles}}{1 \text{ hour}}$$

Connecting Representations

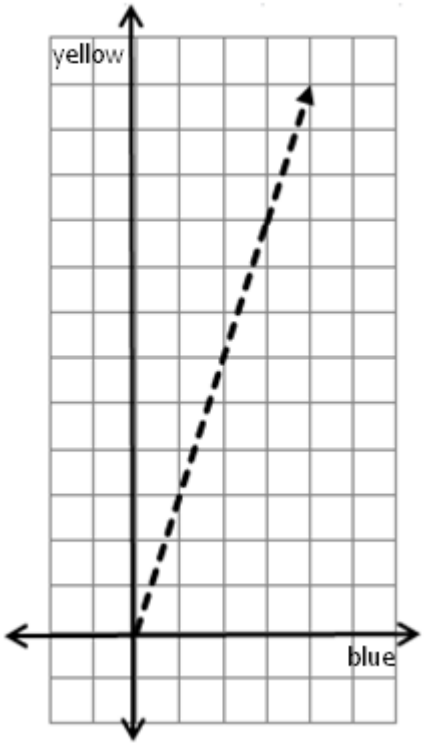
The ratio of gallons of yellow paint to gallons of blue paint is 3:1.

Find three equivalent ratios.





graph



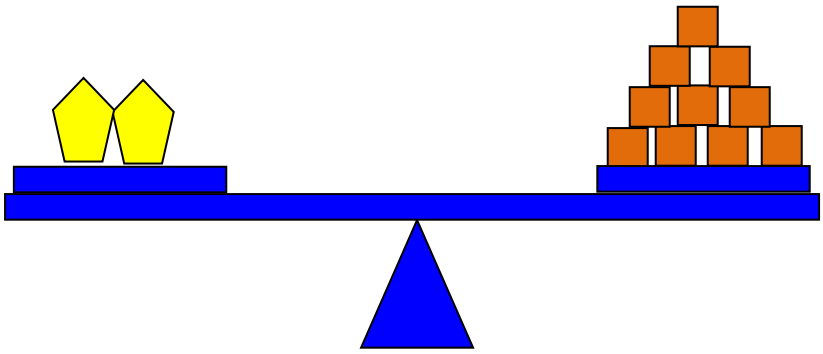
table

yellow	3	6	9	12
blue	1	2	3	4

Equation

a mathematical sentence stating that two expressions are equal

$2x = 10$



$-38 = y - (-21)$

$\frac{1}{3}x = -16$

Expression

a representation of quantity

16

x

$2 + 3^4$

$3(2 + 3.9) - \frac{8}{9}$

Variable

a symbol used to represent an unknown quantity

y

$3 + x = 2.08$

$A = \pi r^2$

Coefficient

the numerical factor in a term

$(-4) = 2x$

$-7y$

$\frac{1}{3}a = -5$

Term

a number, variable, product, or quotient in an expression of sums and/or differences

$$\underbrace{3y^2} + \underbrace{2y} - \underbrace{8}$$

3 terms

$$\underbrace{-5x} + \underbrace{(-2)}$$

2 terms

$$\underbrace{\frac{2}{3}a}$$

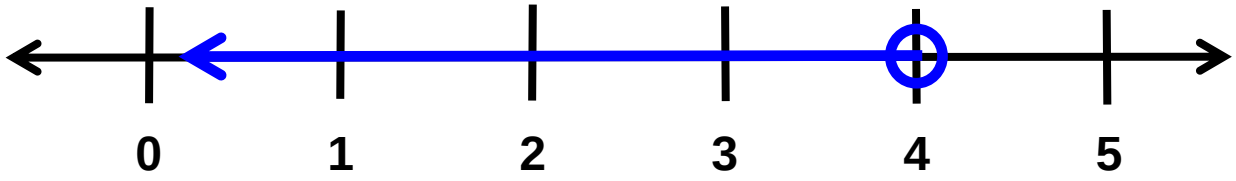
1 term

Verbal and Algebraic Expressions and Equations

Verbal	Algebraic
A number multiplied by 5	$5n$
The sum of negative two and a number	$-2 + n$
The sum of a number and two is five	$y + 2 = 5$
Negative three is one-fifth of a number	$-3 = \frac{1}{5}x$

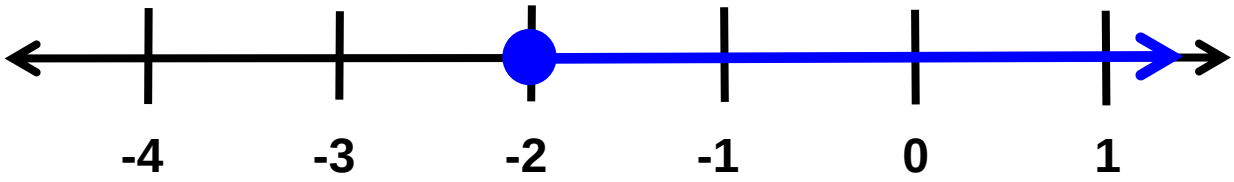
Inequality

$y < 4$ or $4 > y$



$x + (-5) \geq -7$

$x \geq -2$



$-3 < a - 7$

$4 < a$ or $a > 4$