Def. Line Segment

A section of a line that has 2 ENDPOINTS.

The symbol for line segment is —

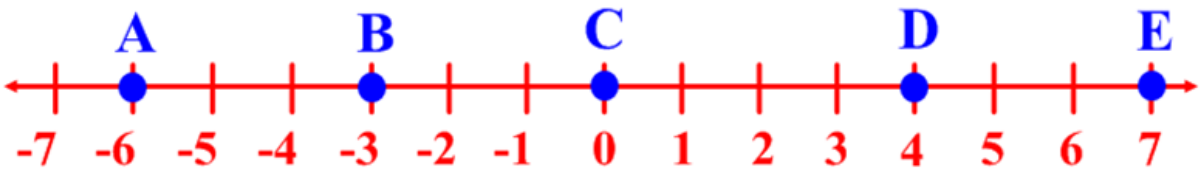
To name a line segment, you use the 2 endpts. with the symbol for line segment above them.

Betweenness of pts.

Pt. M is between pts. P and Q if P,Q, and M are collinear then PM + MQ = PQ

Measuring a line segment

The measure of a line segment is the absolute value of the DIFFERENCE of the coordinates of the endpts.



Def. Congruent

Two or more figures that have equal measurement.

The symbol for congruent is ≅

In a picture, "tick" marks are used to indicate ≅

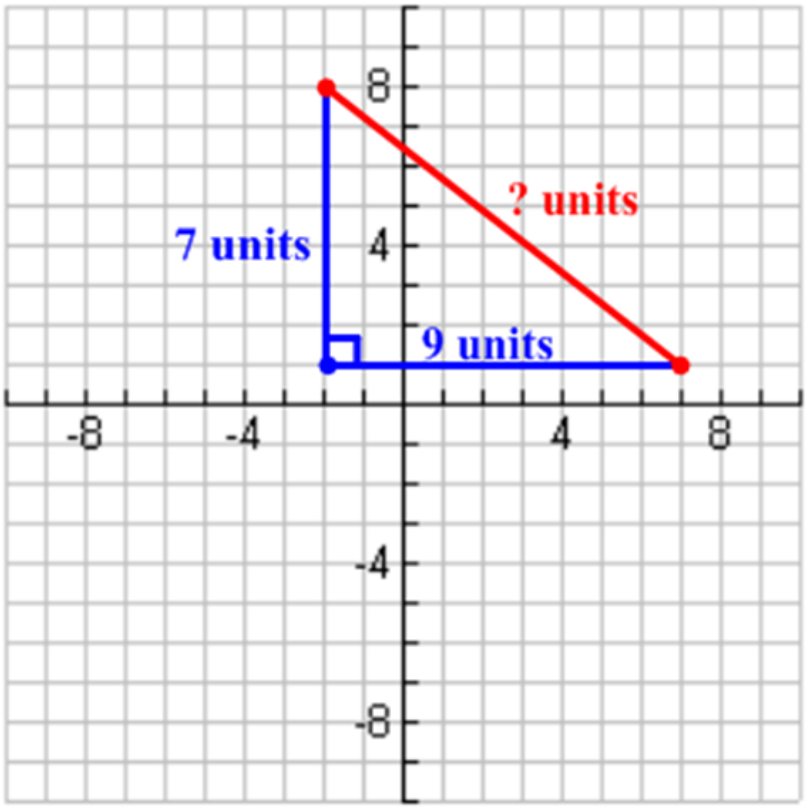
Def. ≅ Segments

Two segments are ≅ if and only if they have the same measurements.

The Pythagorean Theorem

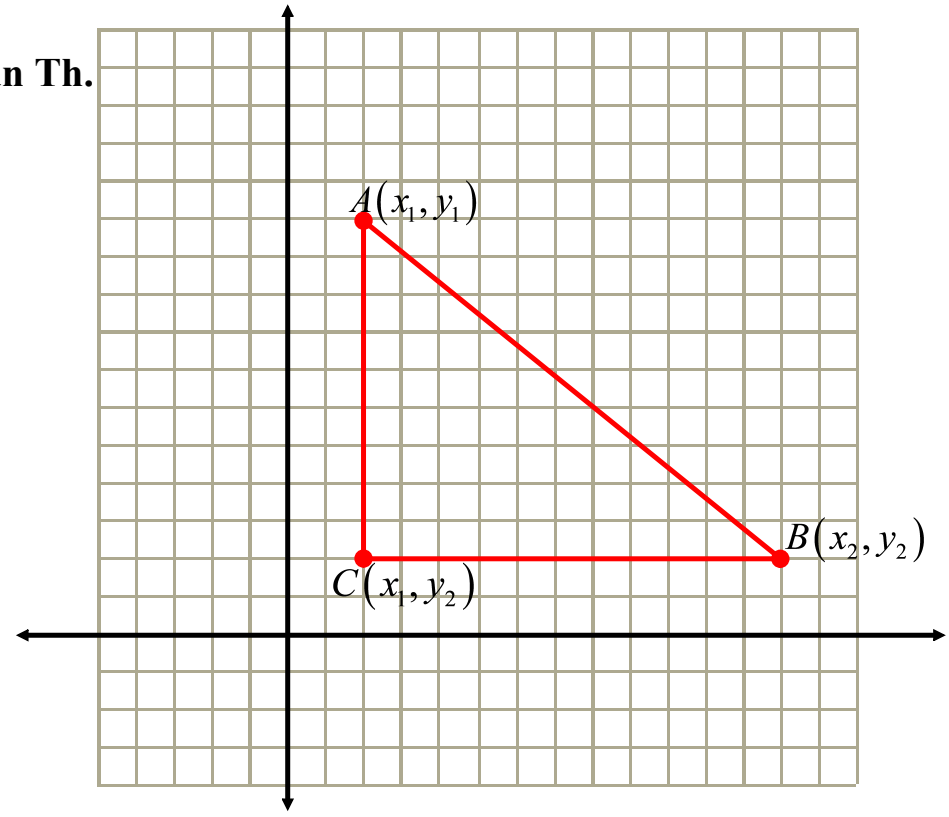
In A right triangle, if a and b are the lengths of the legs and c is the length of the hypotenuse, then the following equation is always true:

$$a^2 + b^2 = c^2$$


8
4
-4
-8
-8
-4
4
8
7 units
? units
9 units

Use the Pythagorean Th.

to find $\overline{AB}$.



The Distance Formula

On the coordinate plane, the distance between any 2 pts. with coordinates (x_1, y_1) and (x_2, y_2) can be found by the following formula:

$$d = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$$

Def. Midpt.

The midpt. of $\overline{AB}$ is the pt. X between A and B such that AX = XB

Midpt. Formulas

1. On a number line, the coordinate of the midpt. of a segment whose endpts. have coordinates a and b can be found by:

$$\frac{a+b}{2}$$

2. On the coordinate plane,the coordinates of the midpt. of a segment whose endpts. are (x_1, y_1) and (x_2, y_2) are:

$$\left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$$

Def. Segment Bisector

Any segment, line, or plane that intersects a segment at its midpt.