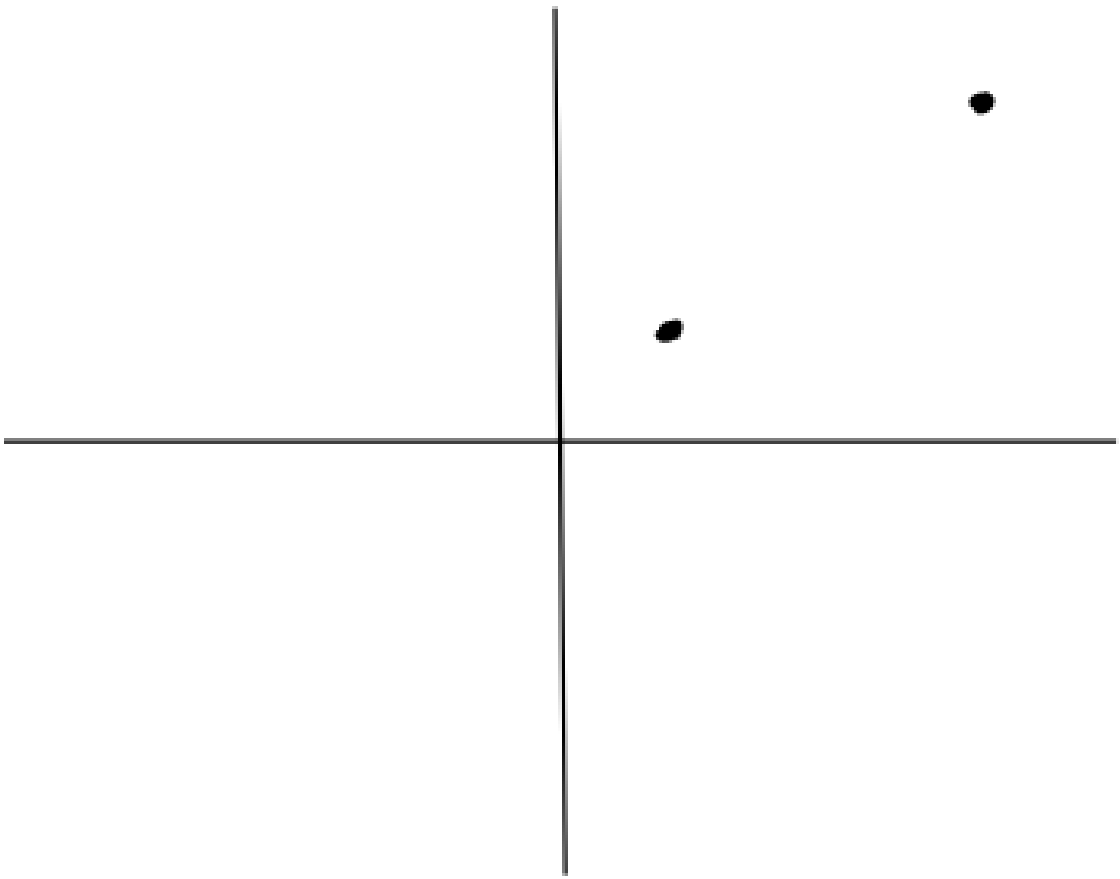
Unit 1 Learning Goal

GEO.B.1.PointsLinesPlanes
Identify points, lines, planes and angles and describe the relationships between them to include drawing and constructions.

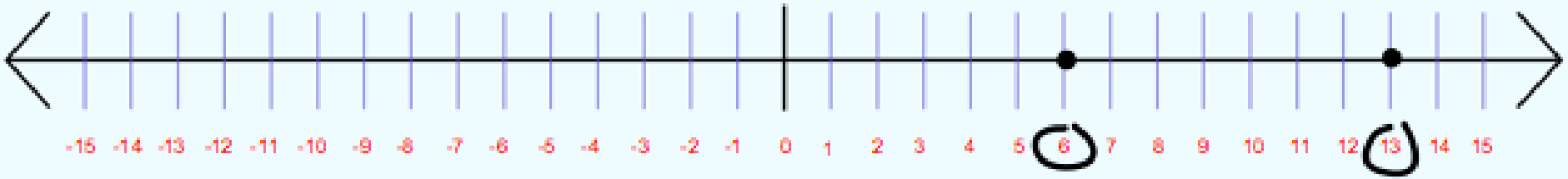
Lesson 1-4 Learning Targets

- I can find the distance between two points on a number line and coordinate plane
- I can use Pythagorean Theorem to find the hypotenuse



One way to measure the distance between two points is to use a number line. The numbers on a ruler are a real life example of a number line.

You could just count the distance between each point, or we can use our algebra skills for instances where counting is not efficient.



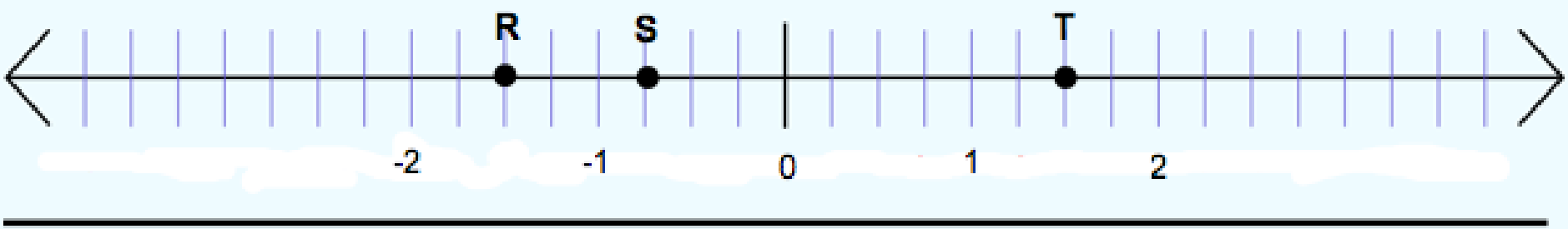
Since the measure between two points is always positive, we can use the absolute value of the difference between the two points.

When we use absolute value, the order in which you subtract the points does not matter.

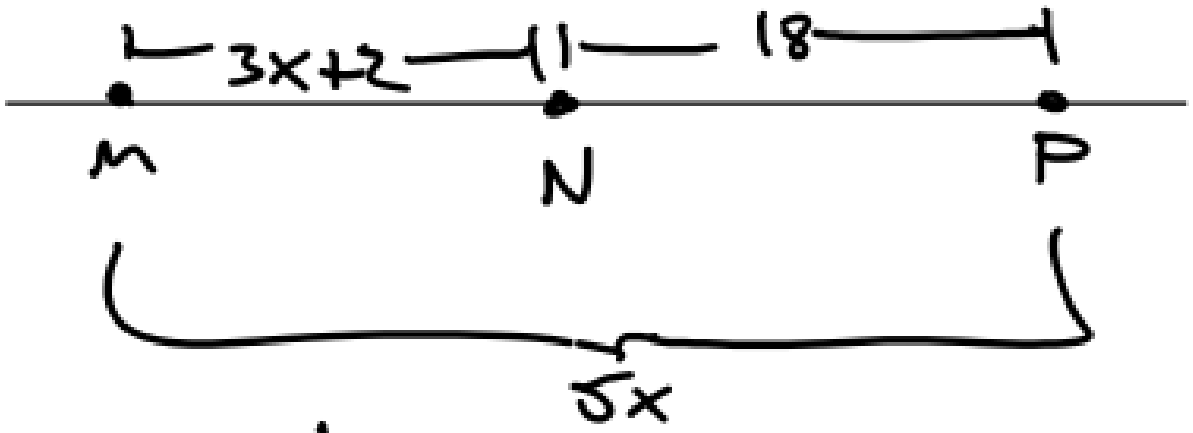
$|6 - 13| = |-7|$ or 7

$|13 - 6| = |7|$ or 7

Find RS, ST, and RT on the number line below.



Find the measure of $\overline{MN}$ if N is between M and P, MN = 3x + 2, NP = 18, and MP = 5x.



$5x = (3x + 2) + 18$

$5x = 3x + 20$

$2x = 20$

$x = 10$

$3(10) + 2$

$30 + 2$

$\overline{MN} = 32$

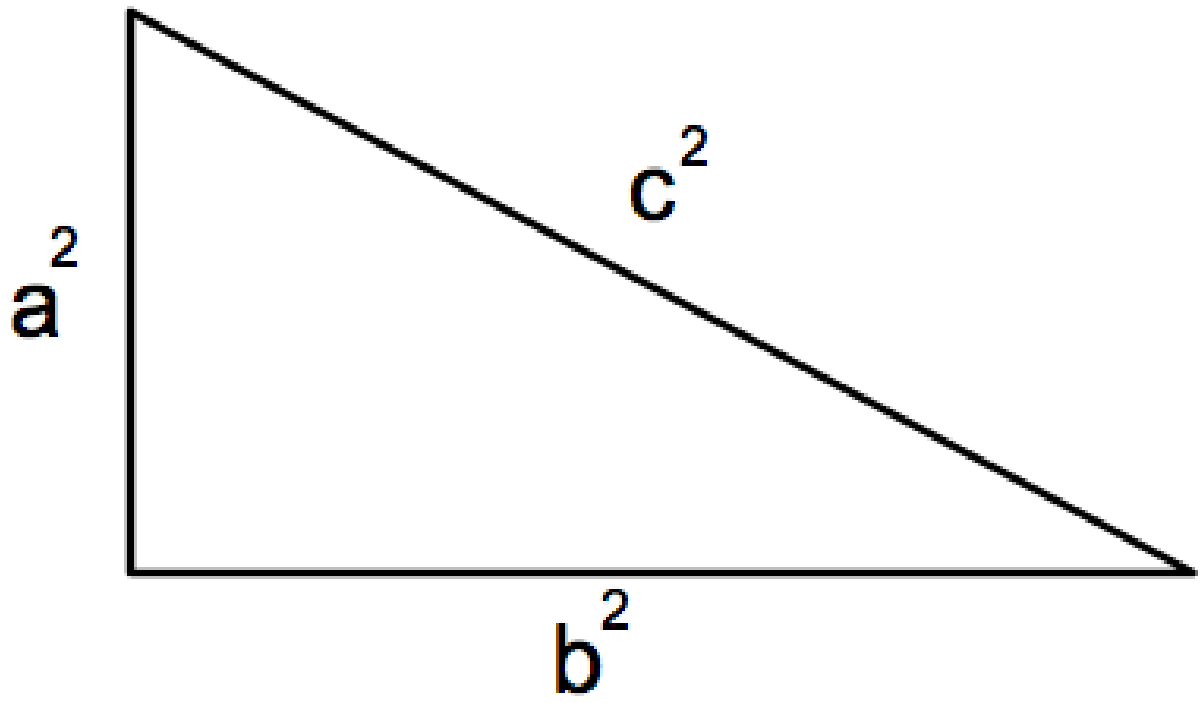
$$-(3x-2)$$

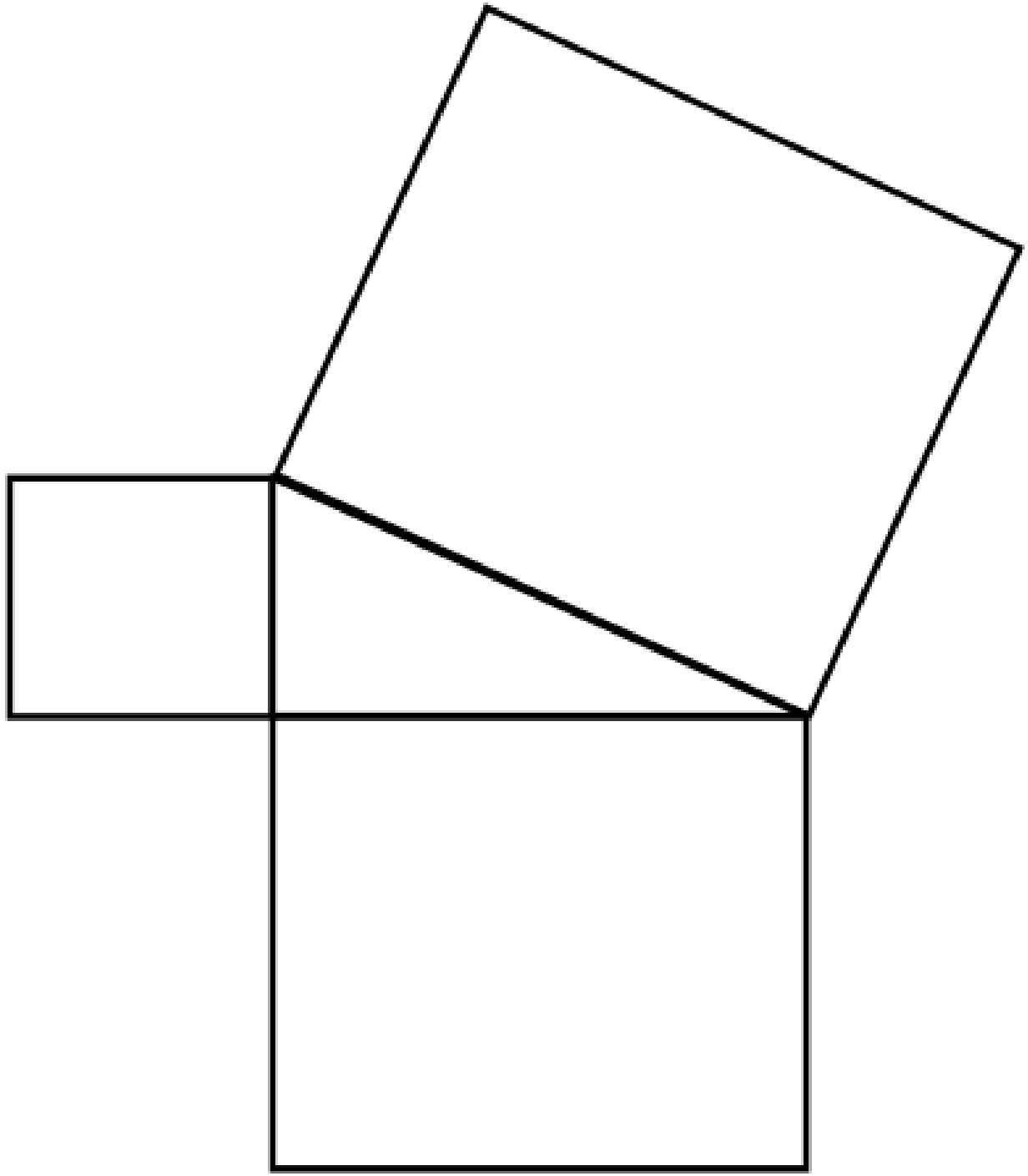
$$-3x+2$$

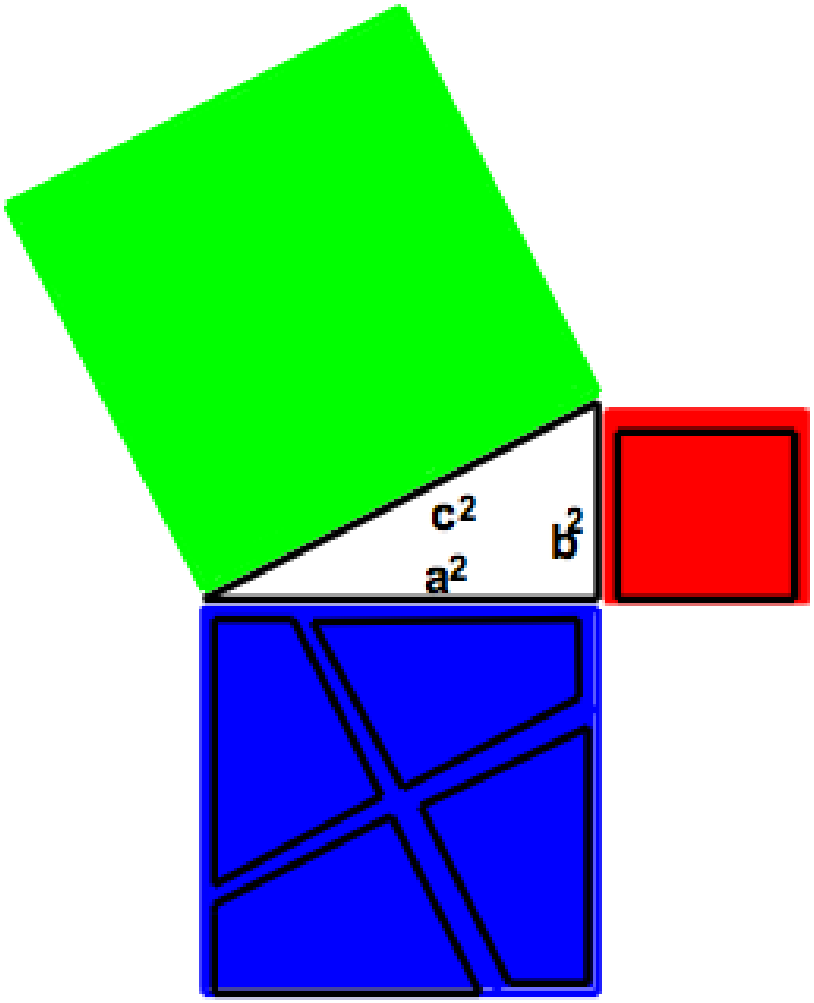
$$-3x-2$$

Find the measure on $\overline{TU}$ if U is between T and B, TU = 4x - 1, UB = 2x-1, and TB = 5x.

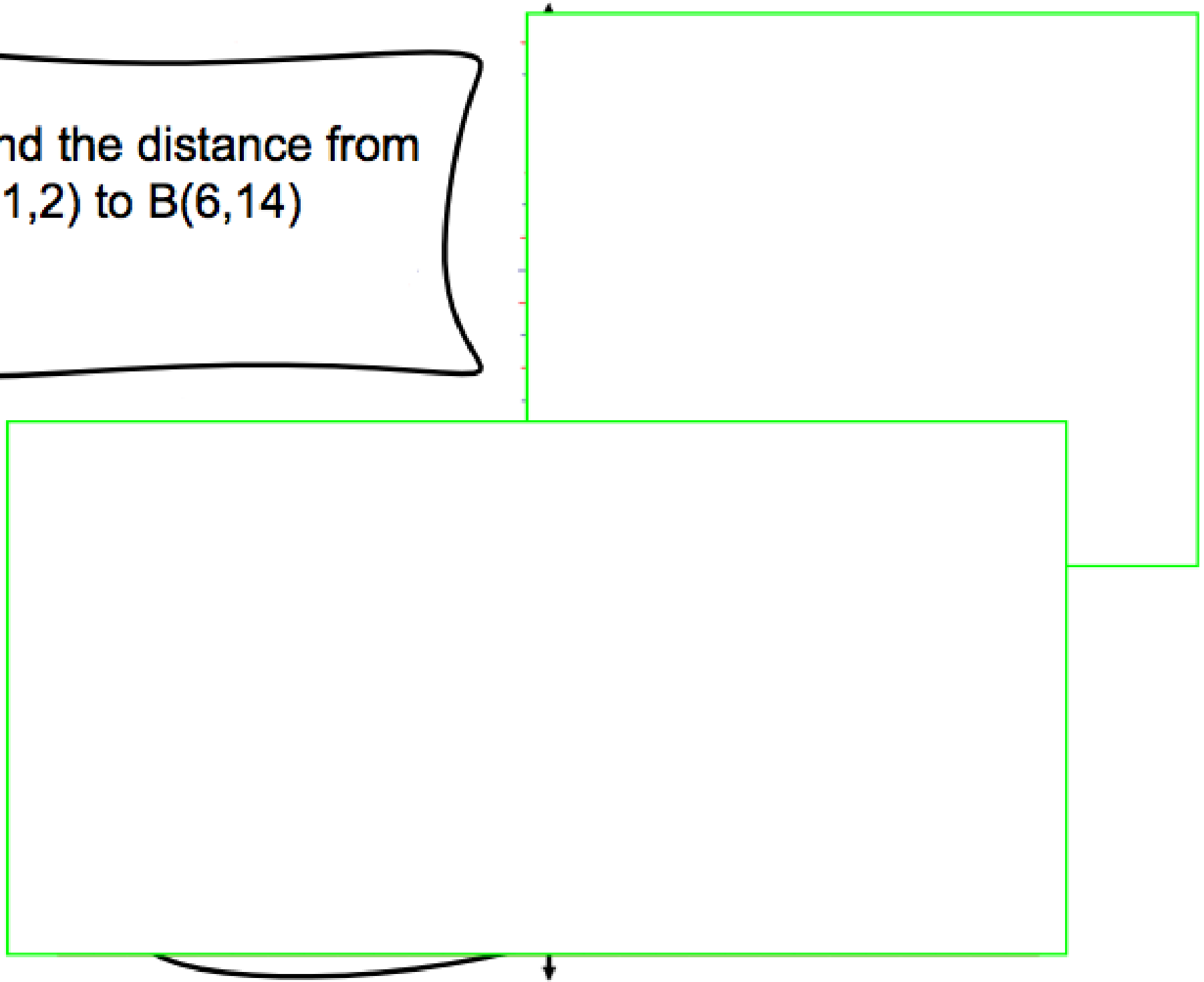
Pythagorean Theorem: In a right triangle, the sum of the squares of the measures of the legs equals the square of the measure of the hypotenuse.






c2
b2
a2

Find the distance from A(1,2) to B(6,14)



Distance Formula: The distance *d* between any two points with coordinates (x_1, y_1) and (x_2, y_2) is given by the formula:

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

Find the distance from A(1,2) to B(6,14)

$x_1\ y_1 \qquad x_2\ y_2$

$$d = \sqrt{(6-1)^2 + (14-2)^2}$$

$$d = \sqrt{5^2 + 12^2}$$

$$d = \sqrt{169}$$

$$d = 13$$

Find JK for J(9,-5) and K(-6,12)

How far from the origin is the point (-5,-12)