

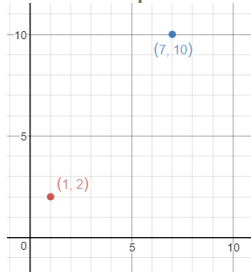
Created by Mr. Lischwe
Warmup 1 / $((-2)^4 - (-2)^2)$

*** Get a Graphing Sheet and a Calculator***

Find the distance between the points

(1, 2) and (7, 10)

10 units



CHECK HOMEWORK

Story Problem

On a town map, each unit of the coordinate plane represents 1 mile. Three branches of a bank are located at A(-3, 1), B(2, 3), and C(4, -1).

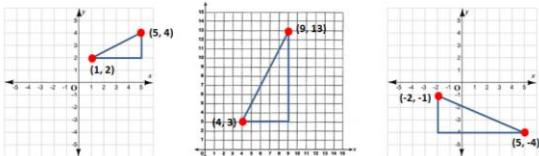
A bank employee drives from Branch A to Branch B and then drives halfway to Branch C before getting stuck in traffic. What is the minimum total distance the employee may have driven before getting stuck in traffic? Round to the nearest tenth of a mile.

7.6 miles

Quiz Tomorrow

- Naming Figures
- Finding the measures of angles and segments
- Midpoint and Distance
- We will give you the distance formula

Alternate Method: Distance Formula



- How do you get the length of the HORIZONTAL leg?
 - Subtract the x-coordinates!
- How do you get the length of the VERTICAL leg?
 - Subtract the y-coordinates!

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

When I'm finding the distance, which letter is that?

$$\sqrt{a^2 + b^2} = c$$

If "a" is the horizontal distance and "b" is the vertical distance:

$$\sqrt{(x - x)^2 + (y - y)^2} = c$$

Write it down on your notes page if you want...

Distance Formula

If (x_1, y_1) and (x_2, y_2) are the points, then:

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

- NOTE: If this formula confuses you, **you don't have to use it (at least not this year)**. You can just draw the triangle and use $a^2 + b^2 = c^2$!

- Find the distance between:
(2, 10) and (6, 3)

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

To find the distance between 2 points...

- You can use the formula

OR

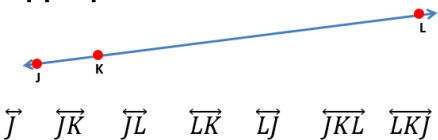
- Graph them, draw the triangle, and use the Pythagorean Theorem

- When would each be more useful than the other?

Find the distance between the points

(-7, -4) and (-4, 6)

How many of these are appropriate names for this line?



How many of these are appropriate names for this angle?

