Warm-Up~

1. Compare the rate of change to determine which is greater:

a) (3,5)(0,4) b) y = 2/5x + 5

a) $\frac{(3,5)}{-(0,4)}$ $\quad 3 \quad 1$ $\quad m = \frac{1}{3}$ $\quad b)\ m = \frac{2}{5}$

$\frac{1}{3} \quad \frac{2}{5}$

$\frac{5}{15} < \frac{6}{15}$

2. $0.\overline{4} \times \frac{2}{3} = \frac{4}{9} \cdot \frac{2}{3} = \frac{8}{27}$

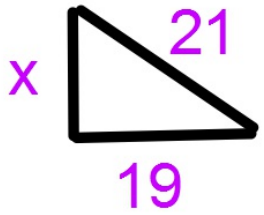
3. Solve. $12\left(\frac{n}{2} - \frac{1}{12} = \frac{5}{6}\right) =$

$6n - 1 = 10$

$6n = 11$

$n = \frac{11}{6}$

4. Find the missing length.



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

$a^2 + 19^2 = 21^2$

$a^2 + 361 = 441$

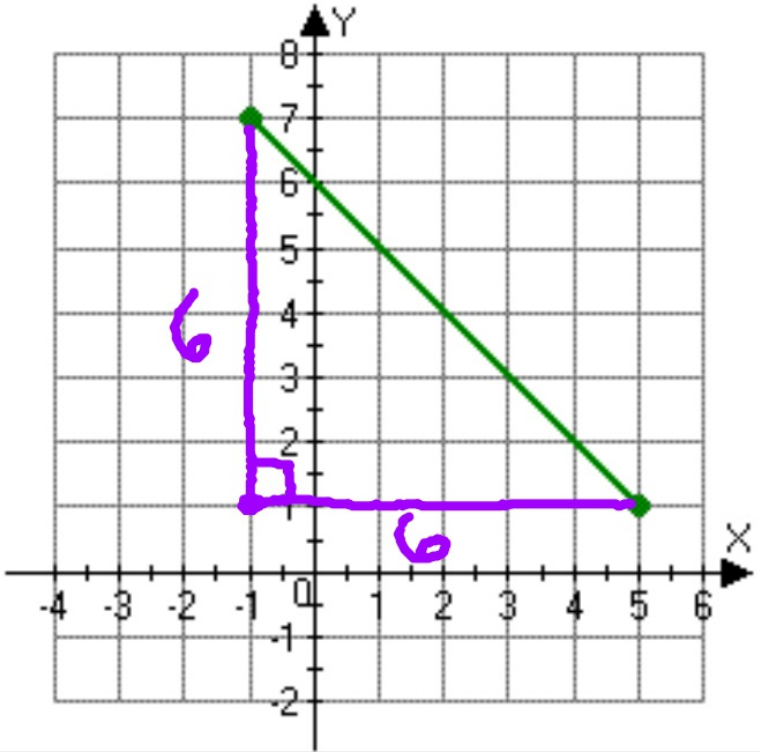
$a^2 = 80$

$\sqrt{a^2} = \sqrt{80}$

$a = 8.94$

$a = 8.9$

Group Activity ~ A student was asked to find the length of the line segment below. Considering what you have learned about the Pythagorean Theorem, how do you think it can be applied to find the exact length of the segment? Write in complete sentences.



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

$6^2 + 6^2 = c^2$

$36 + 36 = c^2$

$72 = c^2$

$\sqrt{72} = \sqrt{c^2}$

$8.48 = c$

$8.5 = c$

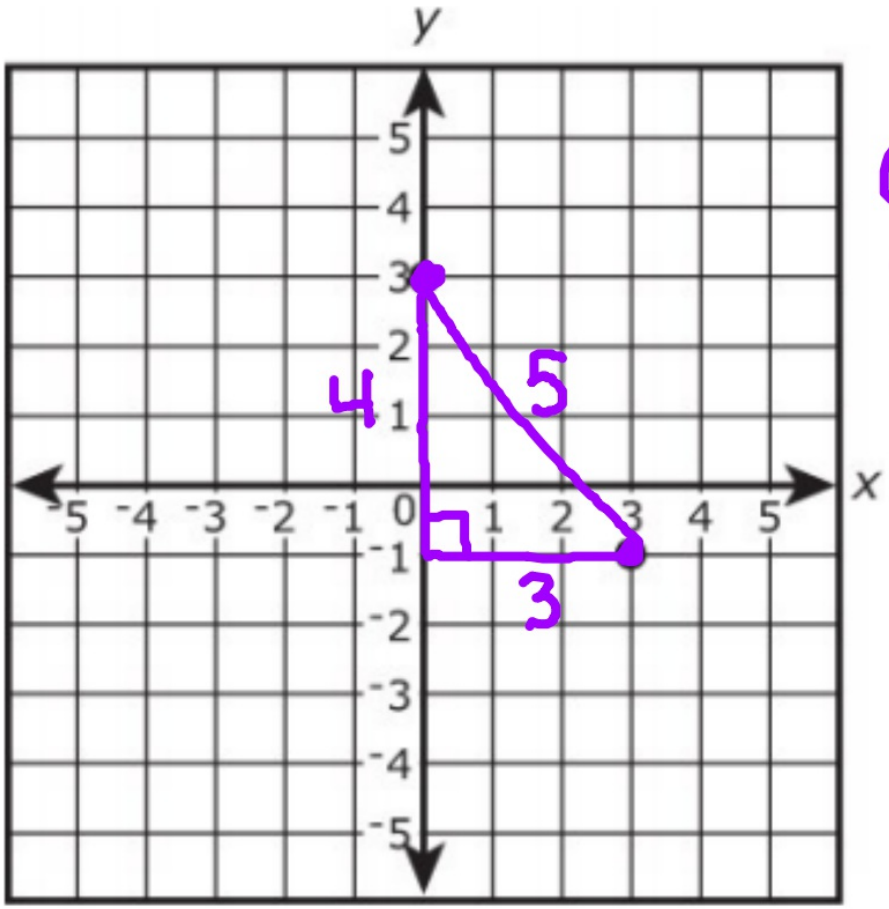
Finding the distance Between Points on a Coordinate System

Distance Formula

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

*Distance formula is not necessary at this level, you can use pythagorean theorem!

1) Two points are graphed on the coordinate plane.



$a^2+b^2=c^2$
$3^2+4^2=c^2$
$9+16=c^2$
$25=c^2$
$\sqrt{25}=\sqrt{c^2}$
$5=c$

What is the distance between the two points?

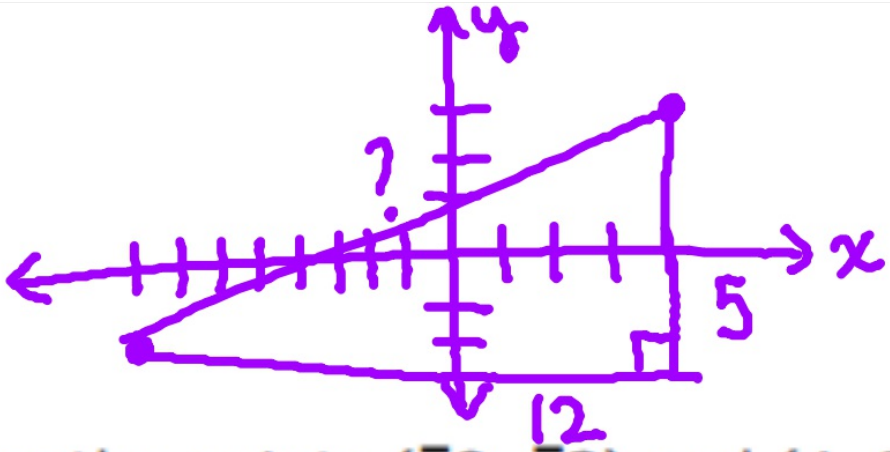
A. 3 units

B. 4 units

C. 5 units

D. 7 units

2)



What is the distance between the points $(-8, -2)$ and $(4, 3)$?

A. 12 units

B. 13 units

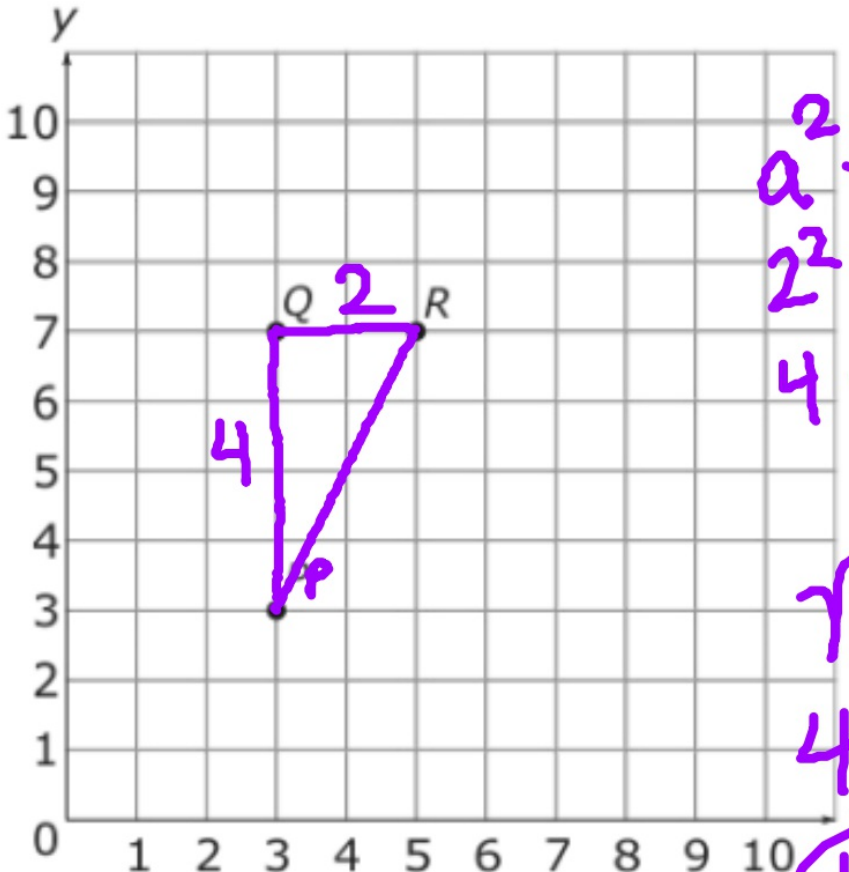
C. 14 units

D. 15 units

$$a^2 + b^2 = c^2$$
$$5^2 + 12^2 = c^2$$
$$25 + 144 = c^2$$
$$169 = c^2$$
$$\sqrt{169} = \sqrt{c^2}$$
$$13 = c$$

3)

What is the ***approximate*** distance between points *P* and *R*?



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

$2^2+4^2=c^2$

$4+16=c^2$

$20=c^2$

$\sqrt{20}=\sqrt{c^2}$

$4.47=c$

$4.5=c$

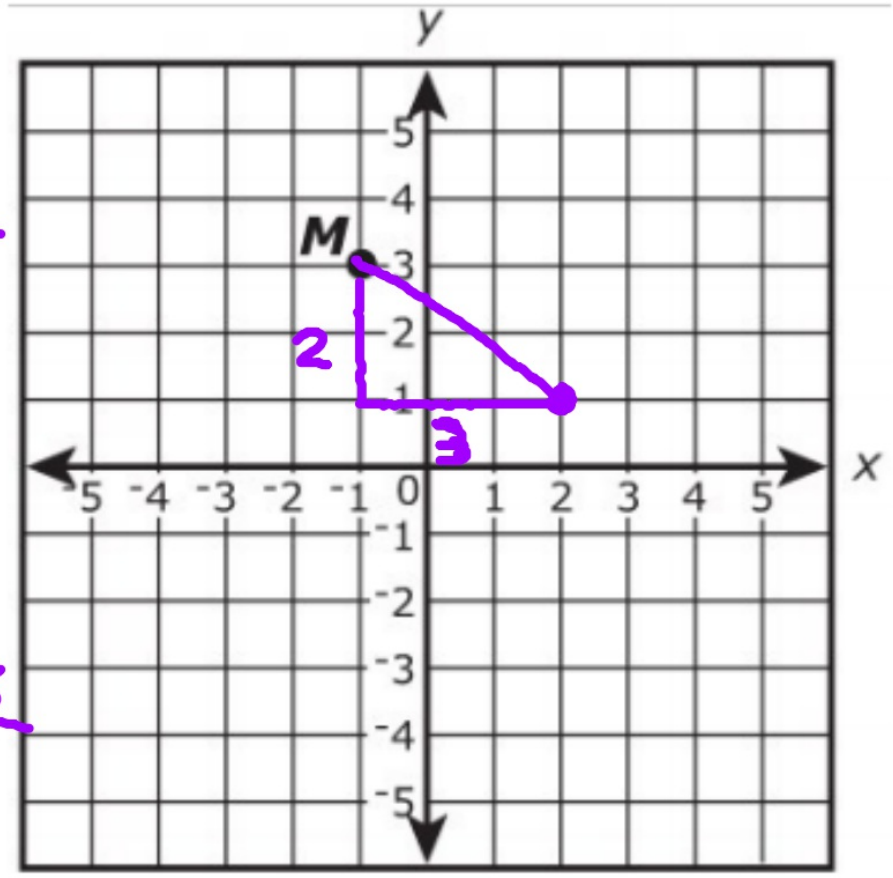
A. 3.5 units

B. 4.0 units

C. 4.5 units

D. 5.0 units

4) Point M is located at $(-1, 3)$ on the coordinate plane. Another point is located 2 units down and 3 units to the right.



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

$2^2+3^2=c^2$

$4+9=c^2$

$13=c^2$

$\sqrt{13}=\sqrt{c^2}$

$\sqrt{13}=c$

What is the distance between the 2 points?

A. $\sqrt{5}$

B. 5

C. $\sqrt{13}$

D. 13