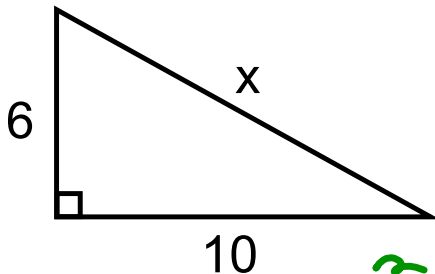


HW: Worksheet

Warm up: Solve for x.

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



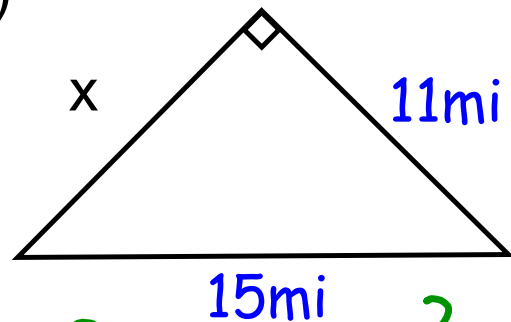
$$6^2 + 10^2 = x^2$$

$$36 + 100 = x^2$$

$$\sqrt{136} = \sqrt{x^2}$$

$$11.66 \approx x$$

2)



$$11^2 + x^2 = 15^2$$

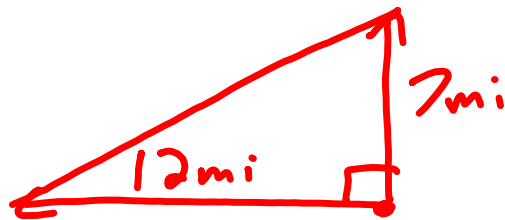
$$121 + x^2 = 225$$

$$\begin{array}{r} -121 \\ \hline \sqrt{x^2} = \sqrt{104} \\ x \approx 10.1980394 \end{array}$$

$$x \approx 10.20 \text{ mi}$$

HW Solutions

①



$$12^2 + 7^2 = X^2$$

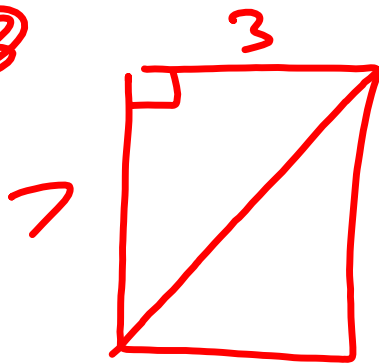
$$144 + 49$$

$$\sqrt{193} = X$$

$$13.89 \approx X$$

$$13.89 \text{ mi}$$

③



$$7^2 + 3^2 = x^2$$


$$49 + 9 = x^2$$

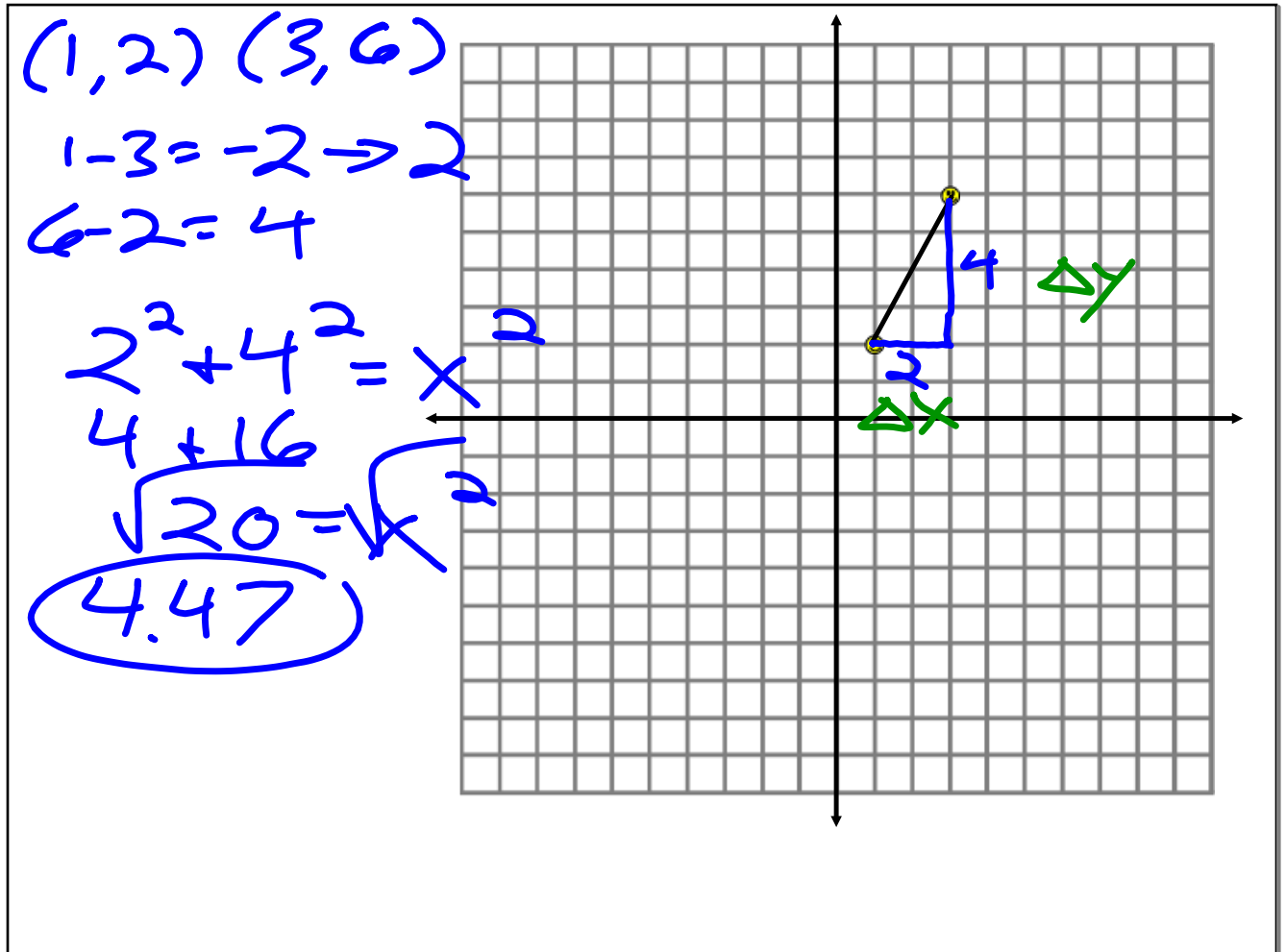
$$\sqrt{58} = \sqrt{x^2}$$

$$7.42 \approx x$$

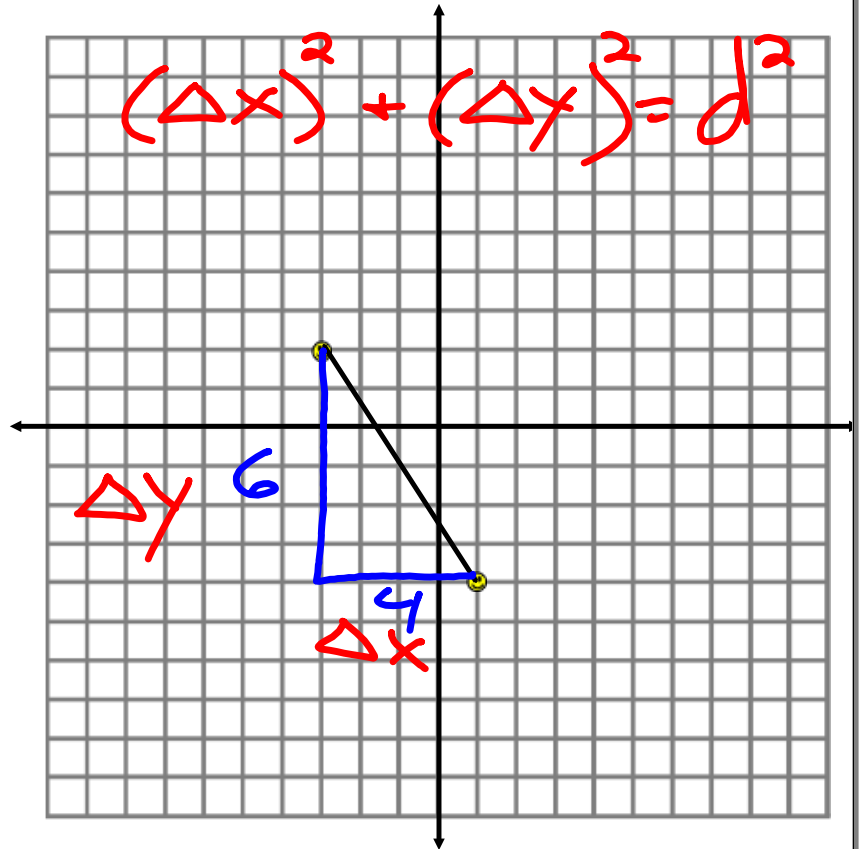
$$7.62 \approx x$$

yes

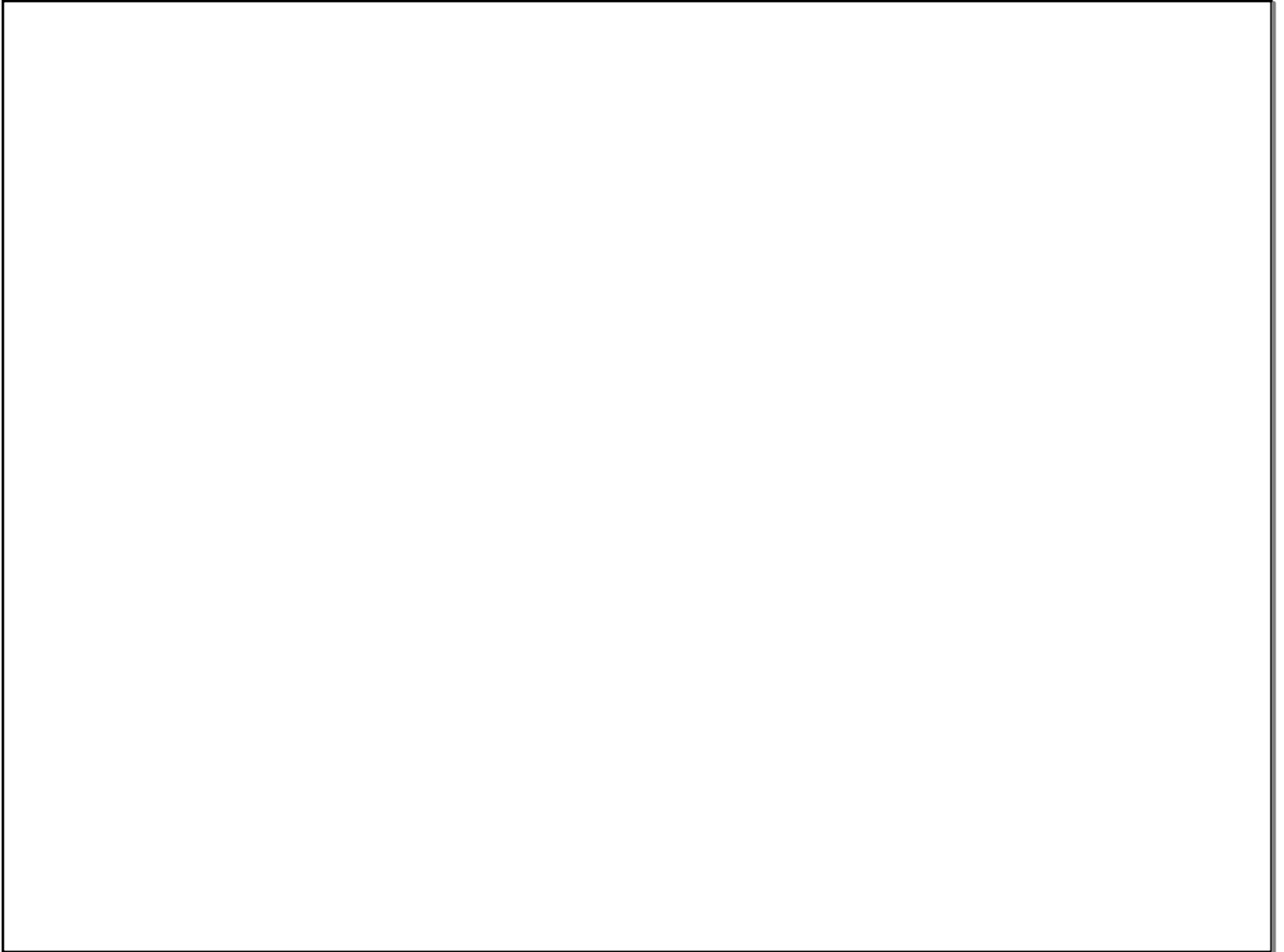
 <https://teacher.desmos.com/activitybuilder/custom/5600a868e795241d06683511>



$$6^2 + 4^2 = c^2$$
$$\frac{36 + 16}{\sqrt{52} = \sqrt{c^2}}$$
$$\textcircled{7.21} \approx c$$



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$$d^2 = (\Delta x)^2 + (\Delta y)^2$$

$$d = \sqrt{(\Delta x)^2 + (\Delta y)^2}$$

What is the distance between (5, 8) and (7, 13)?

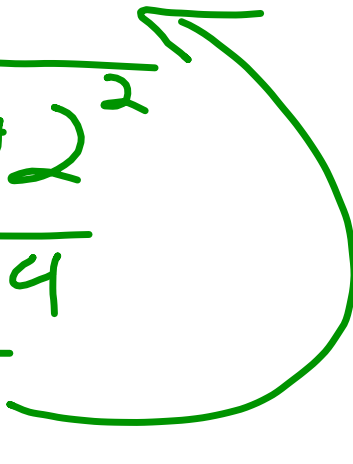
$$\Delta x = 5 - 7 = -2 \rightarrow 2$$

$$\Delta y = 13 - 8 = 5$$

$$5^2 + 2^2 = d^2$$

$$25 + 4 = d^2$$

$$\sqrt{29} = d$$

$$\sqrt{5^2 + 2^2}$$
$$\sqrt{25 + 4}$$
$$\sqrt{29}$$


What is the distance between $(-4, -3)$ and $(5, -2)$?

$$\Delta x = 5 - (-4) = 9$$

$$\Delta y = -2 - (-3) = 1$$

$$9^2 + 1^2 = d^2$$

$$\sqrt{81 + 1} = \sqrt{d^2}$$

$$d \approx 9.06$$

Find the distance between the following pairs of points.

1) $(2, 6)$ and $(-1, 10)$

2) $(0, 4)$ and $(-3, -3)$

3) $(10, 9)$ and $(8, -1)$

4) $(-2, -5)$ and $(-5, -3)$

5) $(7, 0)$ and $(6, 8)$

6) $(-1, 9)$ and $(4, -3)$

1) (2, 6) and (-1, 10)

$$\Delta x = 2 - (-1) = 3$$

$$\Delta y = 10 - 6 = 4$$

$$3^2 + 4^2 = d^2$$

$$\sqrt{9+16} = \sqrt{25} = d$$

$$\textcircled{5} = d$$

2) (0, 4) and (-3, -3)

$$0 - (-3) = 3$$

$$4 - (-3) = 7$$

$$3^2 + 7^2 = d^2$$

$$9 + 49$$

$$\sqrt{58} = d$$

$$7.62$$

3) (10, 9) and (8, -1)

$$\begin{aligned}10 - 8 &= 2 \\ 9 - (-1) &= 10 \\ 2^2 + 10^2 &= d^2 \\ 4 + 100 & \\ \sqrt{104} &= d \\ \text{10.20}\end{aligned}$$

4) $(-2, -5)$ and $(-5, -3)$

$$-2 - (-5) = 3$$

$$-5 - (-3) = -2 \rightarrow 2$$

$$3^2 + 2^2 = d^2$$

$$9 + 4$$

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

$$\textcircled{3.61}$$

5) (7,0) and (6,8)

$$7-6=1$$

$$8-0=8$$

$$1^2 + 8^2 = d^2$$

$$1 + 64$$
$$\sqrt{65} = d$$

$$8.06$$

6) $(-1,9)$ and $(4,-3)$

$$4 - (-1) = 5$$

$$9 - (-3) = 12$$

$$5^2 + 12^2 = d^2$$

$$25 + 144$$

$$\sqrt{169} = \sqrt{d^2}$$

$$\textcircled{13} = d$$

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