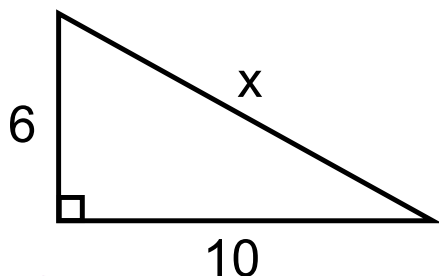


HW: Worksheet

**Warm up:** Solve for x.

1)



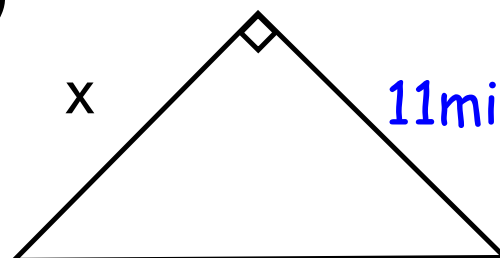
$$6^2 + 10^2 = x^2$$

$$36 + 100$$

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

$$11.66 \approx x$$

2)



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

$$x^2 + 121 = 225$$

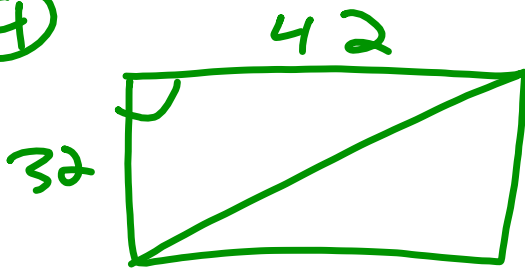
$$-121 \quad -121$$

$$\sqrt{x^2} = \sqrt{104}$$

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

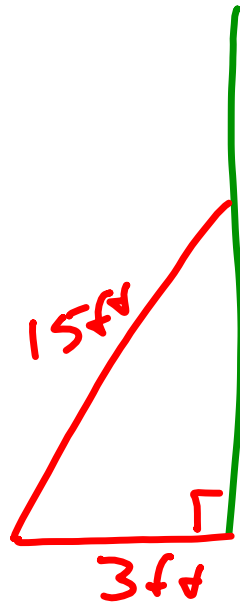
## HW Solutions

(4)




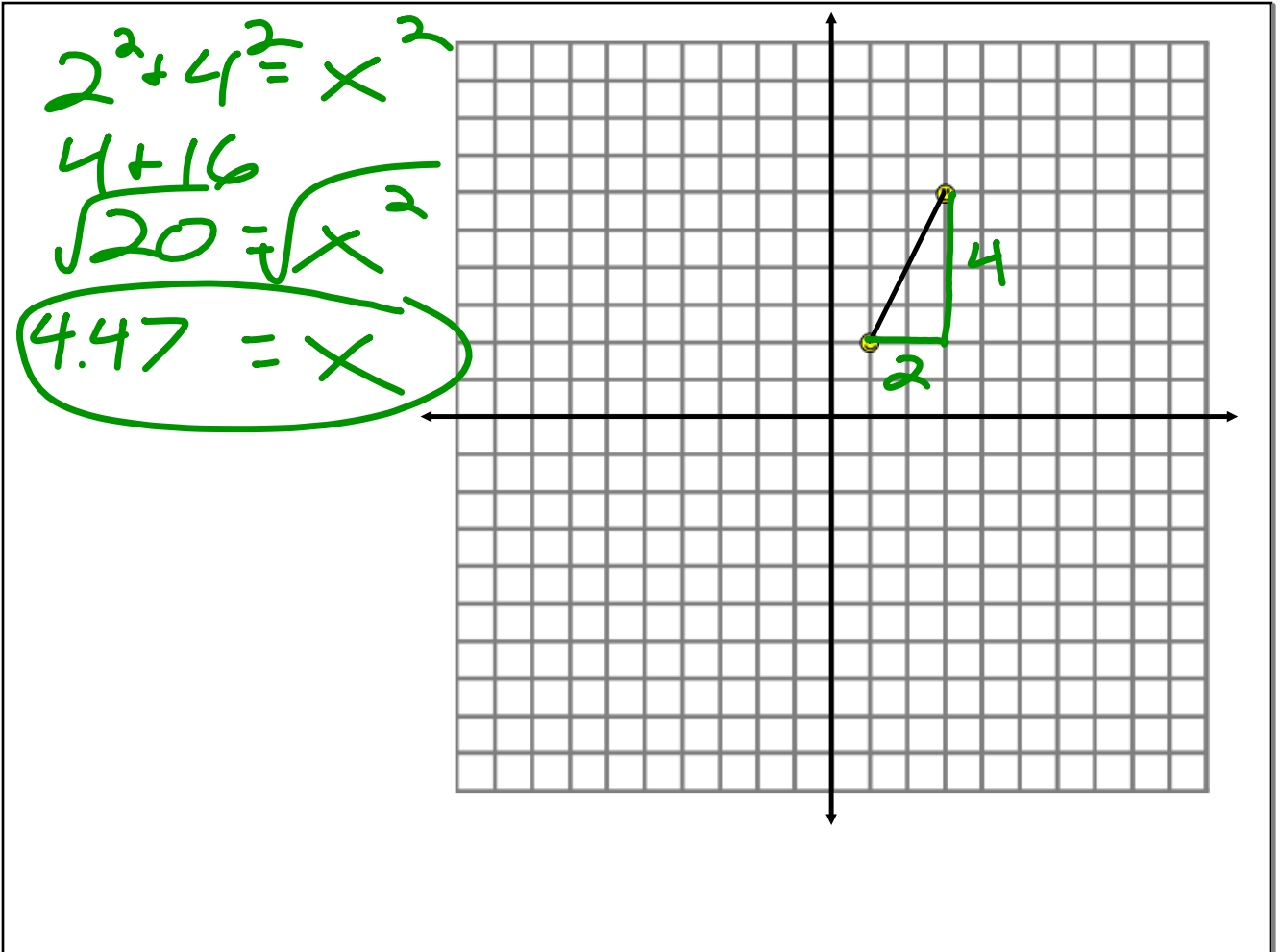
$$\begin{aligned} 32^2 + 42^2 &= x^2 \\ 1024 + 1764 & \\ \sqrt{2788} &= \sqrt{x^2} \\ 52.80 \text{ in} & \end{aligned}$$

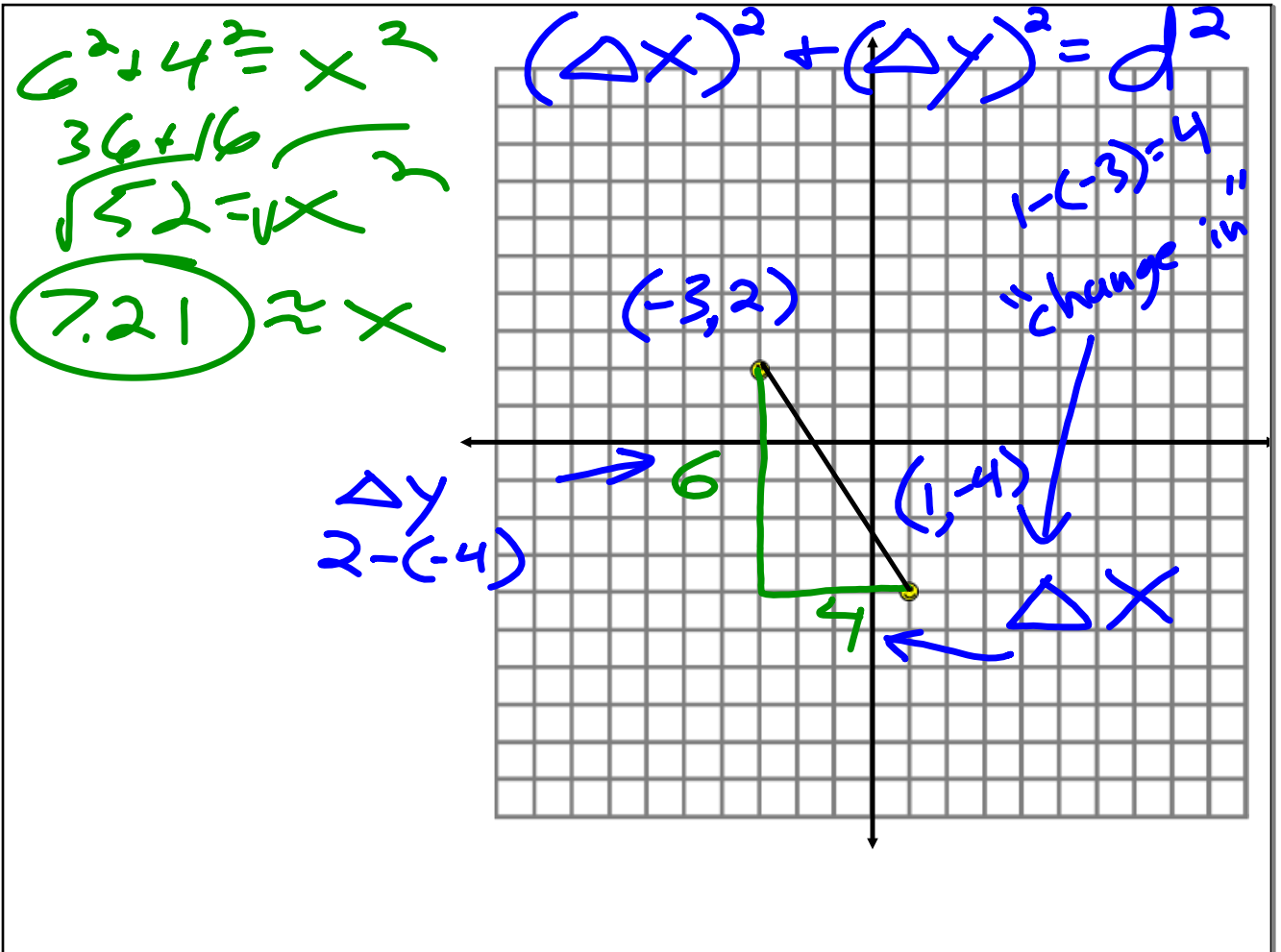
②



$$\begin{aligned}
 3^2 + x^2 &= 15^2 \\
 9 + x^2 &= 225 \\
 -9 & \quad -9 \\
 \hline
 x^2 &= 216 \\
 \sqrt{x^2} &= \sqrt{216} \\
 &= 14.70 \text{ ft}
 \end{aligned}$$

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





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

distance formula

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

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

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

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

$$2^2 + 5^2 = x^2$$

$$4 + 25 = x^2$$

$$\sqrt{29} = x$$

$$5.39 \approx x$$



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

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

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

$$9^2 + 1^2 = x^2$$

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

$$\textcircled{9.06} \approx x$$

Find the distance between the following pairs of points.

1) (2, 6) and (-1, 10)  $5$

2) (0, 4) and (-3, -3)  $7.62$

3) (10, 9) and (8, -1)  $10.20$

$10 - 8 = 2$   
 $9 - (-1) = 10$

4) (-2, -5) and (-5, -3)  $3.61$

5) (7, 0) and (6, 8)  $8.06$

6) (-1, 9) and (4, -3)  $13$

$10^2 + 2^2 = x^2$   
 $100 + 4$   
 $\sqrt{104} = x$   
 $10.20 = x$

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  $(4,-3)$



