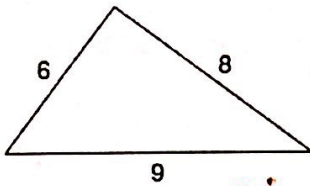


Pythagorean Theorem Extra Practice Worksheet

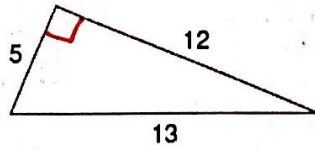
For 1-3, is the triangle a right triangle? Show your work.

1)



check:  $6^2 + 8^2 = 9^2$   
 $36 + 64 = 81$   
 $100 \neq 81$  **NO**

2)



check:  $5^2 + 12^2 = 13^2$   
 $25 + 144 = 169$   
 $169 = 169$  **YES**

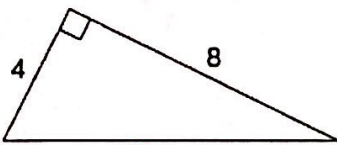
3)  $a = 2.1$ ,  $b = 7.2$ ,  $c = 7.5$

check:  $2.1^2 + 7.2^2 = 7.5^2$   
 $4.41 + 51.84 = 56.25$   
 $56.25 = 56.25$

**YES**

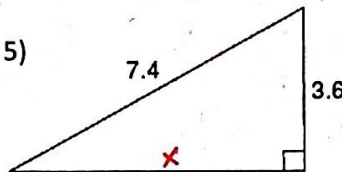
For 4-8, find the length of the 3<sup>rd</sup> side of the triangle.

4)



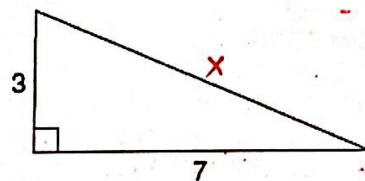
$4^2 + 8^2 = x^2$   
 $16 + 64 = x^2$   
 $80 = x^2$   
 $x \approx 8.9$

5)



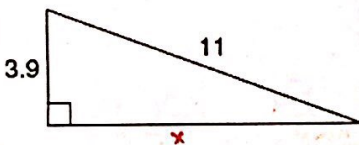
$x^2 + 3.6^2 = 7.4^2$   
 $x^2 + 12.96 = 54.76$   
 $x^2 = 41.8$   
 $x \approx 6.5$

6)



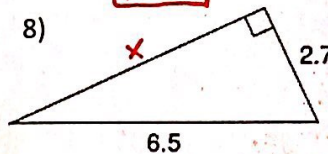
$3^2 + 7^2 = x^2$   
 $9 + 49 = x^2$   
 $58 = x^2$   
 $x \approx 7.6$

7)



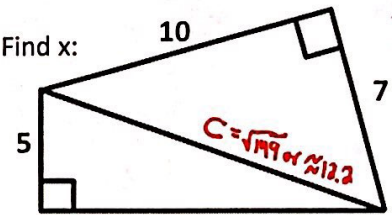
$3.9^2 + x^2 = 11^2$   
 $15.21 + x^2 = 121$   
 $x^2 = 105.79$   
 $x \approx 10.3$

8)



$x^2 + 2.7^2 = 6.5^2$   
 $x^2 + 7.29 = 42.25$   
 $x^2 = 34.96$   
 $x \approx 5.9$

9) Find x:

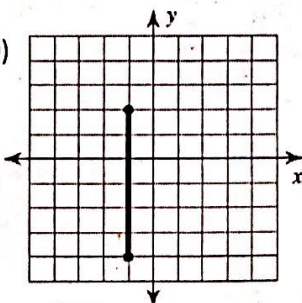


$10^2 + 7^2 = C^2$   
 $100 + 49 = C^2$   
 $149 = C^2$   
 $12.2 \approx C$  (use  $\sqrt{149}$ )

$\sqrt{149}^2 = 5^2 + x^2$   
 $149 = 25 + x^2$   
 $124 = x^2$   
 $x \approx 11.1$

Find the distance between the two points.

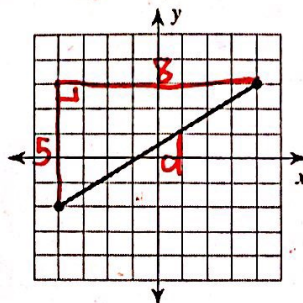
10)



$d = 6$

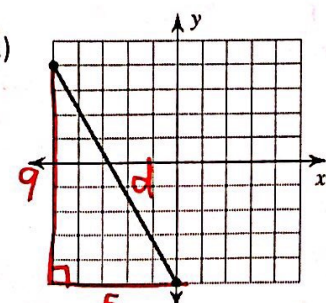
(Not diagonal; can just count)

11)



$5^2 + 8^2 = d^2$   
 $25 + 64 = d^2$   
 $89 = d^2$   
 $d \approx 9.4$

12)



$9^2 + 5^2 = d^2$   
 $81 + 25 = d^2$   
 $106 = d^2$   
 $d \approx 10.3$



Find the distance between the two points. Use the graph if you wish.

13) (1, 5) and (4, 9)

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

(3, 4, 5) = P. Triple

$$d = 5$$

14) (-9, 2) and (-4, -3)

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

$$25 + 25 = d^2$$

$$50 = d^2$$

$$d \approx 7.1$$

15) (-2, -7) and (6, -8)

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

$$1 + 64 = d^2$$

$$65 = d^2$$

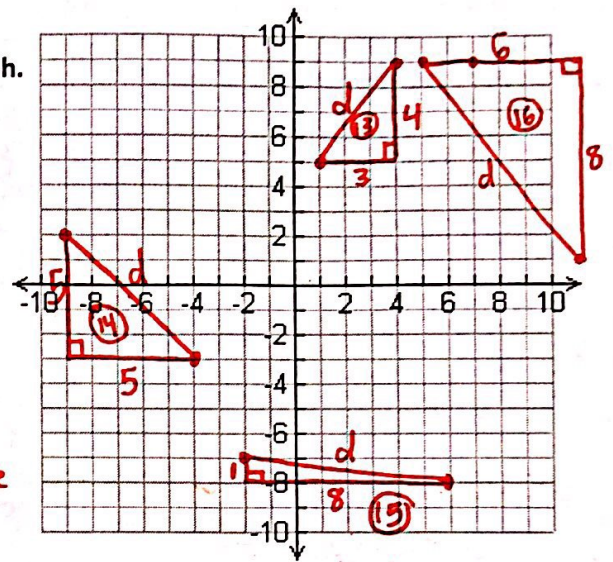
$$d \approx 8.1$$

16) (5, 9) and (11, 1)

$$6^2 + 8^2 = d^2$$

(6, 8, 10) Pythagorean Triple

$$d = 10$$



17) (0, 0) and (300, 400)



$$300^2 + 400^2 = d^2$$

$$90000 + 160000 = d^2$$

$$\sqrt{250000} = \sqrt{d^2}$$

$$d = 500$$

18) (32, 80) and (37, 65)

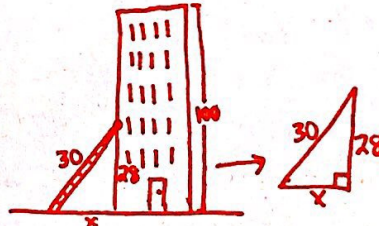
$$5^2 + 15^2 = d^2$$

$$25 + 225 = d^2$$

$$\sqrt{250} = \sqrt{d^2}$$

$$d \approx 15.8$$

19) A skyscraper is 100 feet tall. A man wants to use a 30-foot ladder to rescue somebody that is trapped in a room whose window is 28 feet above the ground. How far away from the building should he put the bottom of the ladder?



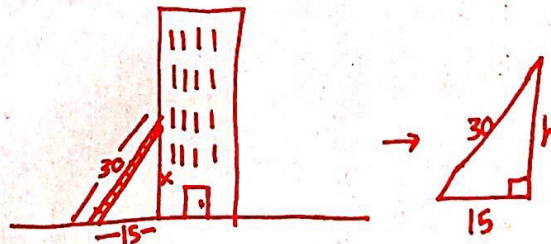
$$x^2 + 28^2 = 30^2$$

$$x^2 + 784 = 900$$

$$x^2 = 116$$

$$x \approx 10.8 \text{ ft}$$

20) The same ladder is moved out so that the base is 15 feet away from the building. How high will the ladder reach now?



$$15^2 + h^2 = 30^2$$

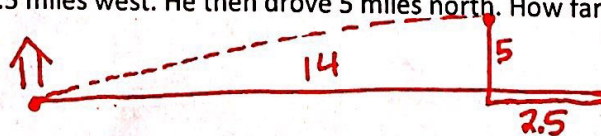
$$225 + h^2 = 900$$

$$h^2 = 675$$

$$h = \sqrt{675}$$

$$h \approx 26.0 \text{ ft}$$

21) Derman left his house and drove 14 miles east. However, he realized that he missed his turn, so he turned around and drove 2.5 miles west. He then drove 5 miles north. How far away from his house did he end up?



$$d^2 = 11.5^2 + 5^2$$

$$d^2 = 132.25 + 25$$

$$d \approx 12.5 \text{ miles}$$

\*\*\*Now go to [lischwe.weebly.com](http://lischwe.weebly.com) and check your answers!!! This is part of the worksheet grade. If you fix them in a different color, they will count as correct.\*\*\*