

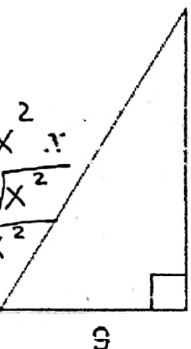
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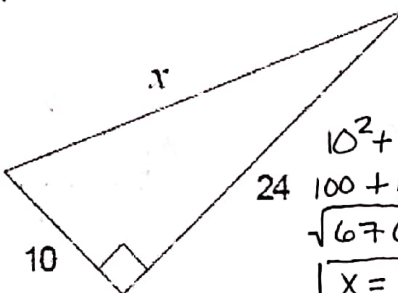
Pythagorean Theorem Assignment

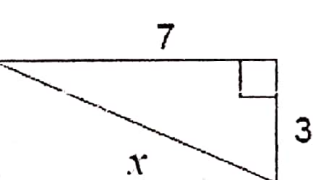
A) Calculate the measure of x in each.

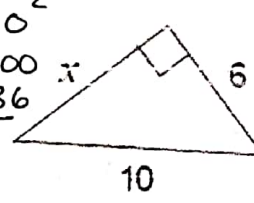
Where necessary, round you answer correct to one decimal place.

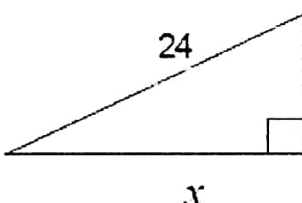
Complete on a separate piece of paper.

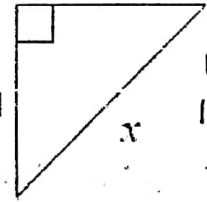
1.   $9^2 + 12^2 = x^2$   
 $81 + 144 = x^2$   
 $\sqrt{225} = \sqrt{x^2}$   
 $x = 15$

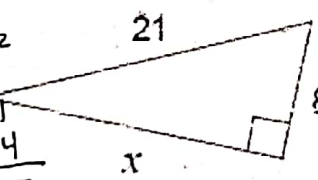
2.   $10^2 + 24^2 = x^2$   
 $100 + 576 = x^2$   
 $\sqrt{676} = \sqrt{x^2}$   
 $x = 26$

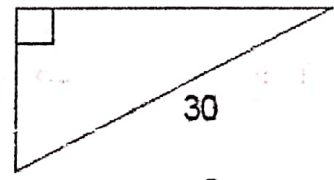
3.   $7^2 + 3^2 = x^2$   
 $49 + 9 = x^2$   
 $\sqrt{58} = \sqrt{x^2}$   
 $x = 7.62$

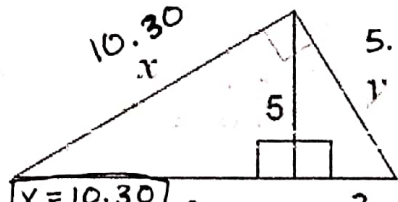
4.   $6^2 + x^2 = 10^2$   
 $36 + x^2 = 100$   
 $-36$   
 $\sqrt{x^2} = \sqrt{64}$   
 $x = 8$

5.   $6^2 + x^2 = 24^2$   
 $36 + x^2 = 576$   
 $-36$   
 $\sqrt{x^2} = \sqrt{540}$   
 $x = 23.24$

6.   $1^2 + 1^2 = x^2$   
 $1 + 1 = x^2$   
 $\sqrt{2} = \sqrt{x^2}$   
 $x = 1.41$

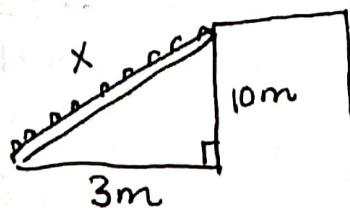
7.   $8^2 + x^2 = 21^2$   
 $64 + x^2 = 441$   
 $-64$   
 $\sqrt{x^2} = \sqrt{377}$   
 $x = 19.42$

8.   $24^2 + x^2 = 30^2$   
 $576 + x^2 = 900$   
 $-576$   
 $\sqrt{x^2} = \sqrt{324}$   
 $x = 18$

9.   $3^2 + 5^2 = x^2$   
 $9 + 25 = x^2$   
 $\sqrt{34} = \sqrt{x^2}$   
 $x = 5.83$

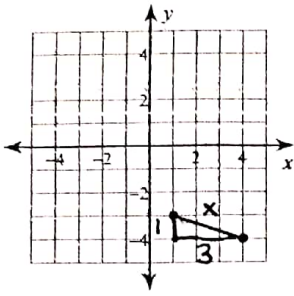
B) A ladder is leaning against the side of a 10m house. If the base of the ladder is 3m away from the house, how tall is the ladder?

Draw a diagram and show all work.



$10^2 + 3^2 = x^2$   
 $100 + 9 = x^2$   
 $\sqrt{109} = \sqrt{x^2}$   
 $x = 10.44$

9)



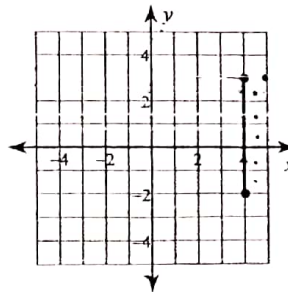
$$1^2 + 3^2 = x^2$$

$$1 + 9 = x^2$$

$$\sqrt{10} = \sqrt{x^2}$$

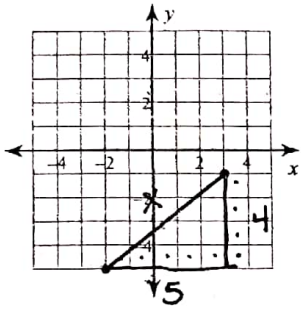
$$x = 3.16$$

10)



distance  
of 5

11)



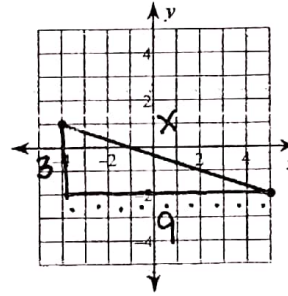
$$5^2 + 4^2 = x^2$$

$$25 + 16 = x^2$$

$$\sqrt{41} = \sqrt{x^2}$$

$$x = 6.40$$

12)



$$3^2 + 9^2 = x^2$$

$$9 + 81 = x^2$$

$$\sqrt{90} = \sqrt{x^2}$$

$$x = 9.49$$

Plot the points on a piece of graph paper. Then find the distance between each pair of points using the Pythagorean Theorem.

13) (7, -3), (4, 3)

$$3^2 + 6^2 = x^2$$

$$9 + 36 = x^2$$

$$\sqrt{45} = \sqrt{x^2}$$

$$x = 6.71$$

14) (-7, 1), (-8, 2)

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

$$1 + 1 = x^2$$

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

$$x = 1.41$$

15) (-4, -3), (6, 1)

$$10^2 + 4^2 = x^2$$

$$100 + 16 = x^2$$

$$\sqrt{116} = \sqrt{x^2}$$

$$x = 10.77$$

16) (-1, 1), (-6, -7)

$$5^2 + 8^2 = x^2$$

$$25 + 64 = x^2$$

$$\sqrt{89} = \sqrt{x^2}$$

$$x = 9.43$$

17) (6, 1), (-3, 8)

$$9^2 + 7^2 = x^2$$

$$81 + 49 = x^2$$

$$\sqrt{130} = \sqrt{x^2}$$

$$x = 11.40$$

18) (3, 6), (8, -8)

$$5^2 + 14^2 = x^2$$

$$25 + 196 = x^2$$

$$\sqrt{221} = \sqrt{x^2}$$

$$x = 14.87$$

19) (-8, 6), (2, 0)

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

$$36 + 100 = x^2$$

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

$$x = 11.66$$

20) (-4, -7), (-1, -1)

$$3^2 + 6^2 = x^2$$

$$9 + 36 = x^2$$

$$\sqrt{45} = \sqrt{x^2}$$

$$x = 6.71$$