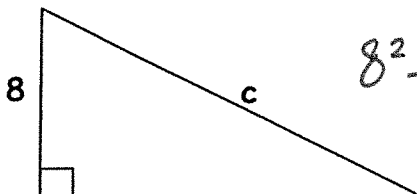


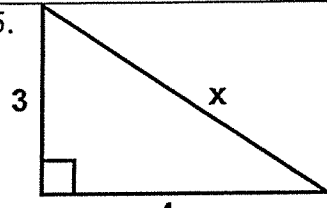
## Pythagorean Theorem Worksheet

Solve for each variable. Round each answer to the nearest tenth. Show all work.

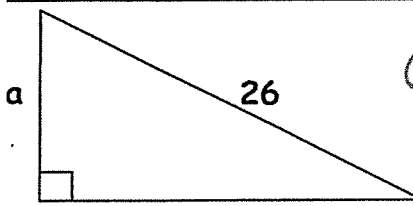


$8^2 + 6^2 = c^2$   
 $64 + 36 = c^2$   
 $c = 10$

5.

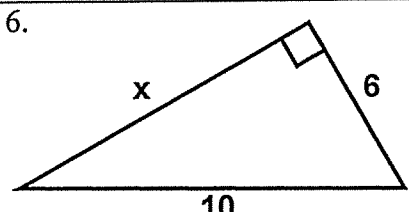


$3^2 + 4^2 = x^2$   
 $9 + 16 = x^2$   
 $x = 5$

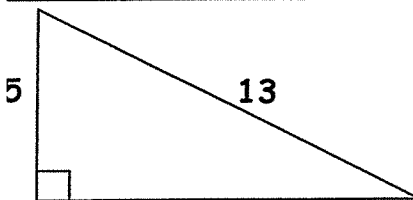


$a^2 + 24^2 = 26^2$   
 $a^2 + 576 = 676$   
 $a^2 = 100$   
 $a = 10$

6.

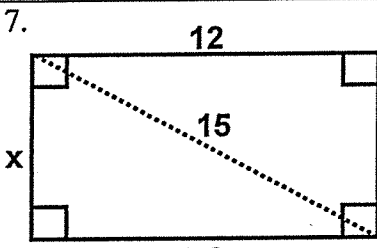


$x^2 + 6^2 = 10^2$   
 $x^2 + 36 = 100$   
 $x^2 = 64$   
 $x = 8$

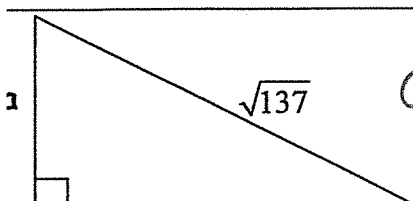


$5^2 + b^2 = 13^2$   
 $25 + b^2 = 169$   
 $b^2 = 144$   
 $b = 12$

7.

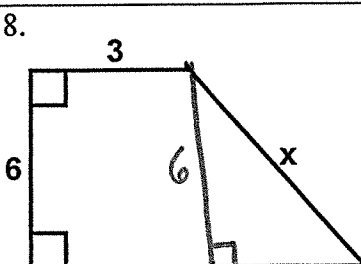


$x^2 + 12^2 = 15^2$   
 $x^2 + 144 = 225$   
 $x^2 = 81$   
 $x = 9$



$a^2 + 11^2 = (\sqrt{137})^2$   
 $a^2 + 121 = 137$   
 $-121 \quad -121$   
 $a^2 = 16$   
 $a = 4$

8.

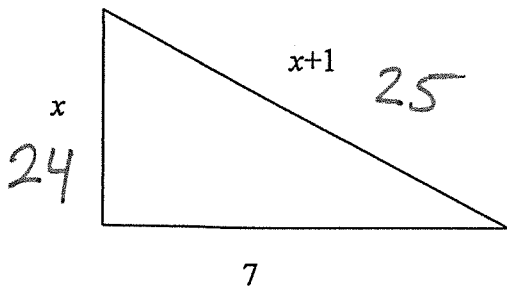


$6^2 + 7^2 = x^2$   
 $36 + 49 = x^2$   
 $x^2 = 85$   
 $x = 9.22$

abc Determine if the following numbers are Pythagorean triples. Show all work.

<p>18. 3, 4, 5 <math>a^2 + b^2 = c^2</math></p> $9 + 16 \stackrel{?}{=} 25$ $25 = 25 \checkmark$ <p style="text-align: right;">R.T</p>	<p>19. 9, 12, 15</p> $9^2 + 12^2 \stackrel{?}{=} 15^2$ $81 + 144 \stackrel{?}{=} 225$ $225 = 225 \checkmark$ <p style="text-align: right;">R.T</p>
<p>20. 13, 14, 15</p> $13^2 + 14^2 \stackrel{?}{=} 15^2$ $169 + 196 \stackrel{?}{=} 225$ $365 \neq 225$ <p style="text-align: right;">Not a R.T</p>	<p>21. 20, 25, 45</p> $20^2 + 25^2 \stackrel{?}{=} 45^2$ $400 + 625 \stackrel{?}{=} 2025$ $1025 \neq 2025$ <p style="text-align: right;">Not a R.T</p>

22. Use the Pythagorean Theorem to solve for x



$$x^2 + 7^2 = (x+1)^2$$

$$x^2 + 49 = (x+1)(x+1)$$

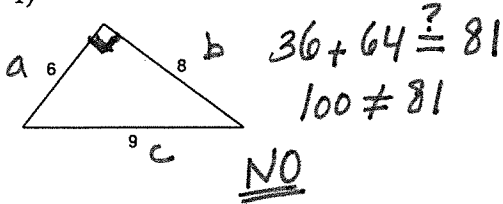
$$x^2 + 49 = x^2 + 2x + 1$$

$$\begin{array}{r} -x^2 \qquad \qquad -x^2 \\ \hline 49 = 2x + 1 \\ -1 \qquad \qquad -1 \\ \hline 48 = 2x \\ \frac{48}{2} = \frac{2x}{2} \\ x = 24 \end{array}$$

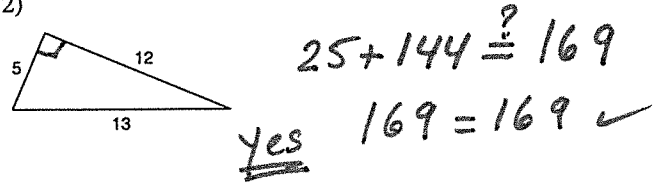
The Pythagorean Theorem

Do the following lengths form a right triangle?

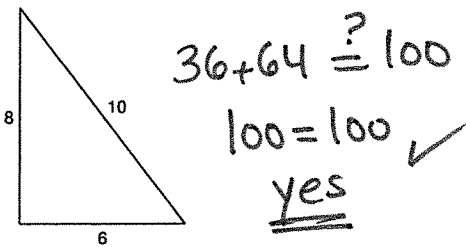
1)



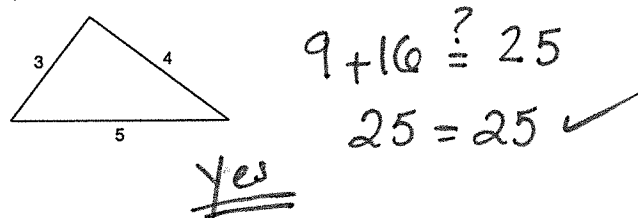
2)



3)



4)

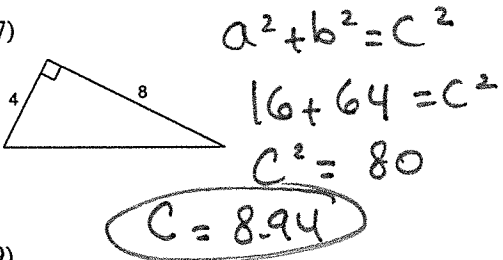


5)  $a = 6.4, b = 12, c = 12.2$

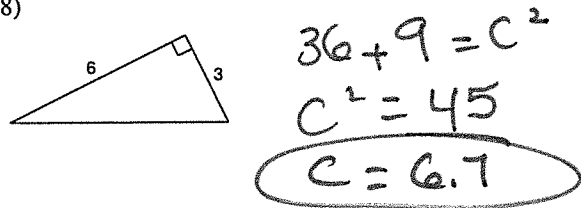
NO  $184.96 \neq 148.84$

Find each missing length to the nearest tenth.

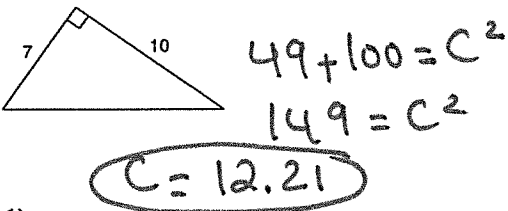
7)



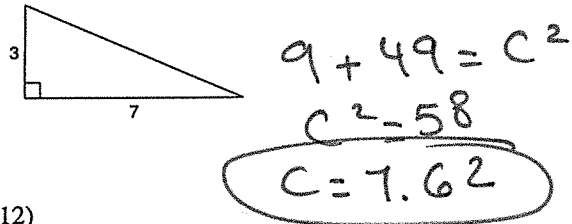
8)



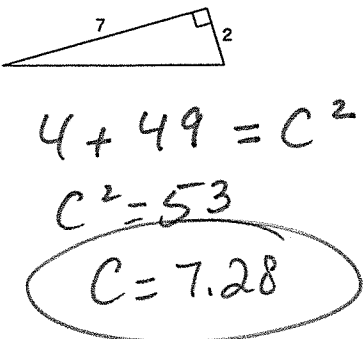
9)



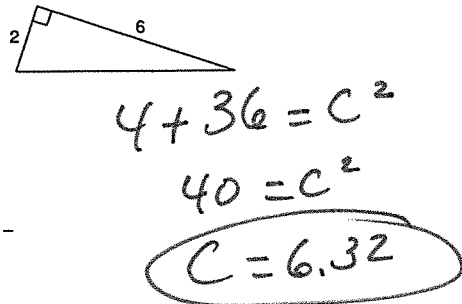
10)



11)



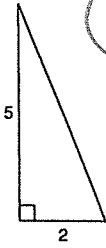
12)



Name Key

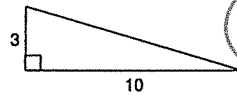
Date \_\_\_\_\_ Period \_\_\_\_\_

13)



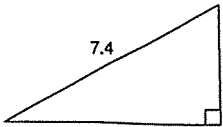
$C = 5.4$

14)



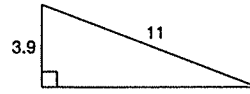
$C = 10.4$

15)



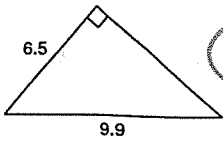
$b = 6.5$

16)



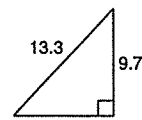
$b = 10.3$

17)



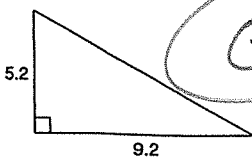
$a = 7.5$

18)



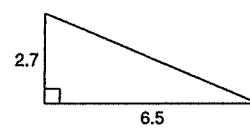
$b = 9.1$

19)



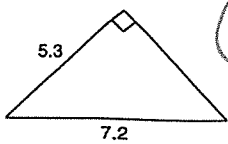
$C = 10.6$

20)



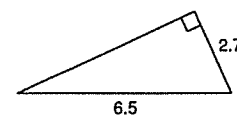
$C = 7$

21)

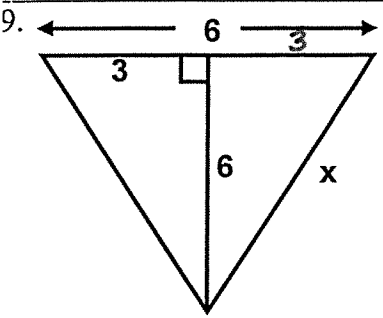


$a = 4.9$

22)



$b = 5.9$



$$9 + 36 = x^2$$

$$x^2 = 45$$

$$x = 6.71$$

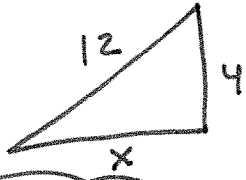
10. The length of one of the legs in a right triangle is 4 inches. If the hypotenuse is 12 inches long, what is the length of the other leg?

$$x^2 + 16 = 144$$

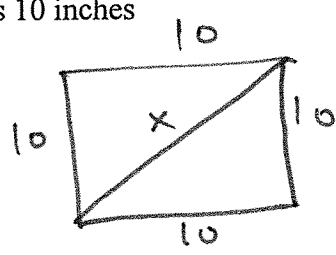
$$-16 \quad -16$$

$$x^2 = 128$$

$$x = 11.31 \text{ inches}$$



12. Find the length of the diagonal of a square whose side length is 10 inches

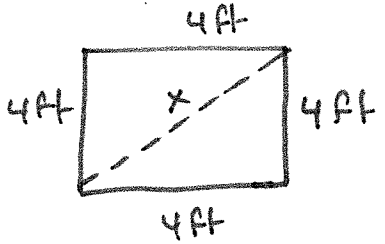


$$10^2 + 10^2 = x^2$$

$$200 = x^2$$

$$x = 14.14 \text{ inches}$$

11. Find the length of a diagonal of a square enclosure with a perimeter of 16 feet.



$$P = 16$$

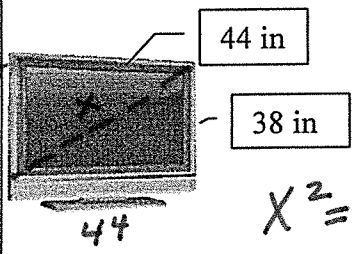
$$S = \frac{16}{4} = 4 \text{ ft}$$

$$x^2 = 16 + 16$$

$$x^2 = 32 \text{ ft}^2$$

$$x = 5.66 \text{ ft}$$

14. What is the diagonal measurement of the TV screen shown in the figure below?



$$x^2 = 1936 + 1444$$

$$x^2 = 3380$$

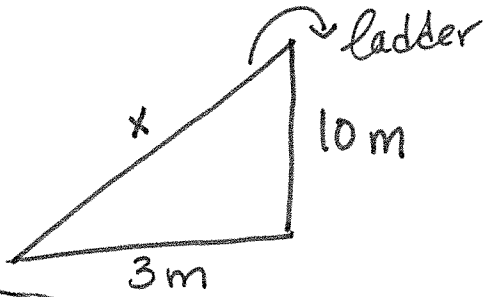
$$x = 58.14 \text{ in}$$

15. 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.

$$10^2 + 3^2 = x^2$$

$$100 + 9 = x^2$$

$$x^2 = 109$$



$$x = 10.44 \text{ m}$$

Find the missing length

16.  $a = 3; b = 4; c = ?$

$$9 + 16 = c^2$$

$$c = 5$$

17.  $a = 6; b = ?; c = 16$

$$36 + b^2 = 256$$

$$b^2 = 220$$

$$b = 14.83$$

