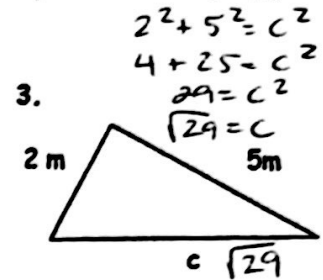
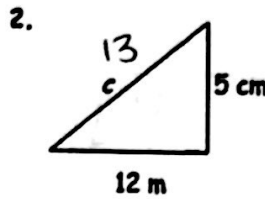
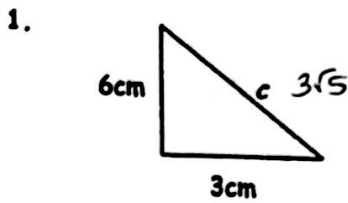


Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

Quiz A: Pythagorean Theorem

Directions: Find the length of each missing side. Write answers in simplest radical form. SHOW ALL WORK.

$$\begin{aligned}
 1. 6^2 + 3^2 &= c^2 \\
 36 + 9 &= c^2 \\
 45 &= c^2 \\
 \sqrt{45} &= c \\
 9 \sqrt{5} & \\
 \textcircled{33} & \\
 3\sqrt{5} &= c
 \end{aligned}$$



4.  $a = 15$   $b = 20$   $c = \sqrt{625}$   
 $15^2 + 20^2 = c^2$   
 $225 + 400 = c^2$   
 $625 = c^2$   
 $\sqrt{625} = c$   
 $25 = c$

5.  $a = 6$   $b = 8$   $c = 10$   
 $6^2 + 8^2 = 10^2$   $b = \sqrt{64} = 8$   
 $36 + b^2 = 100$   
 $b^2 = 64$

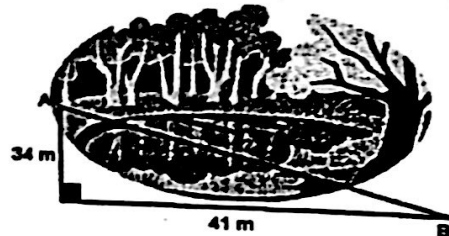
6.  $a = 12$   $b = 5$   $c = 13$   
 $a^2 + 5^2 = 13^2$   $a = \sqrt{144} = 12$   
 $a^2 + 25 = 169$   
 $a^2 = 144$

7.  $a = 9$   $b = 12$   $c = 15$   
 $a^2 + b^2 = 15^2$   
 $81 + b^2 = 225$   
 $b^2 = 144$   
 $b = \sqrt{144} = 12$

8.  $a = 4$   $b = 8$   $c = 4\sqrt{5}$   
 $4^2 + 8^2 = c^2$   
 $16 + 64 = c^2$   
 $80 = c^2$   
 $\sqrt{80} = c$   
 $4\sqrt{5} = c$

9.  $a = 6\sqrt{3}$   $b = 6$   $c = 12$   
 $a^2 + 6^2 = 12^2$   $a = \sqrt{108} = 6\sqrt{3}$   
 $a^2 + 36 = 144$   
 $a^2 = 108$   
 $a = \sqrt{108}$

10. To get from point A to point B you must avoid walking through a pond. To avoid the pond, you must walk 34 meters south and 41 meters east. To the nearest meter, how many meters would be saved if it were possible to walk through the pond?

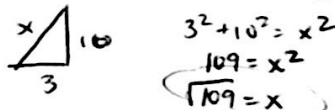


Save 21.74 m.

$$\begin{aligned}
 34^2 + 41^2 &= c^2 \\
 2837 &= c^2 \\
 \sqrt{2837} &= c \\
 c &= 53.26
 \end{aligned}$$

Have to walk  $\sqrt{75} = 8.66$   
 $\begin{array}{r} 34 \\ + 41 \\ \hline 75 \end{array}$   
 $53.26 - 8.66 = 44.6$   
 $44.6 - 22.86 = 21.74$

11. 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? Please draw a diagram and show all work.



ANSWERS:

1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_ 4. \_\_\_\_\_ 5. \_\_\_\_\_ 6. \_\_\_\_\_  
 7. \_\_\_\_\_ 8. \_\_\_\_\_ 9. \_\_\_\_\_ 10. \_\_\_\_\_ 11. \_\_\_\_\_