

# 5.7 Recap

Name: Key



1. Use the Pythagorean Theorem to find missing side lengths
2. Apply the Pythagorean Triples to find missing side lengths
3. Use 3 side lengths to determine whether they form a triangle and if they do, identify if is acute, obtuse, or right

Find the value of x.

1.  $6^2 + 5^2 = x^2$   
 $36 + 25 = x^2$   
 $61 = x^2$   
 $x = 7.81$

2.  $13^2 + x^2 = 15^2$   
 $x^2 = 50$   
 $x = 7.48$   
 $x = 7.48$

3.  $14^2 + x^2 = (x+2)^2$   
 $196 + x^2 = x^2 + 4x + 4$   
 $196 = 4x + 4$   
 $192 = 4x$   
 $x = 48$   
 $x = 48$

Find the missing side lengths. Tell whether the side lengths form a Pythagorean Triple.

4.  $5^2 + 13^2 = c^2$   
 $25 + 169 = c^2$   
 $194 = c^2$   
 $\sqrt{194} = c$   
 not a 5, 12, 13 b/c longest side must be opposite right  $\angle$

5.  $\div 5$  →  $x = 25$ , yes (3, 4, 5)

6.  $\div 2$  →  $x = 30$ , yes (8, 15, 17)

Tell whether the measures can be the side lengths of a triangle. If so, classify the triangle as acute, obtuse, or right.

7. 15, 18, 20  
yes → acute  
 $15^2 + 18^2 > 20^2$

8. 7, 8, 11  
yes → obtuse  
 $7^2 + 8^2 < 11^2$

9. 6, 7,  $3\sqrt{13}$   
 $10.8$   
yes → obtuse  
 $6^2 + 7^2 < (3\sqrt{13})^2$   
 $85 < 117$

10. Do the numbers 2.7, 3.6, and 4.5 form a Pythagorean triple? Explain why or why not in COMPLETE sentences.

11. Explain how you would find the perimeter and area of the triangle in COMPLETE sentences.

