

NAME: \_\_\_\_\_

*P.I. G.G.48: Investigate, justify, and apply the Pythagorean Theorem and its converse*

1. Is a triangle with sides of length 6 cm, 8 cm, and 10 cm a right triangle?
2. Is a triangle with sides of length 10 cm, 24 cm, and 27 cm a right triangle?
3. Is a triangle with sides of length 5 cm, 12 cm, and 13 cm a right triangle?
4. Use a calculator to find out whether a triangle with sides of lengths 8, 10, and 15 is a right triangle.
5. Which set of three numbers represent the lengths of the sides of a right triangle?  
[A] 4, 5, 9      [B] 6, 8, 10      [C] 8, 9, 10  
[D] 9, 16, 25      [E] 6, 7, 8
6. Which set of side lengths cannot form a right triangle?  
[A] 10 mm, 24 mm, 26 mm  
[B]  $\frac{5}{2}$  mm, 6 mm,  $\frac{13}{2}$  mm  
[C] 6 mm, 12 mm, 13 mm  
[D] 5 mm, 12 mm, 13 mm
7. Which set of side lengths cannot form a right triangle?  
[A] 12 mm, 16 mm, 20 mm  
[B] 24 mm, 32 mm, 40 mm  
[C] 6 mm, 8 mm, 10 mm  
[D] 13 mm, 16 mm, 20 mm
8. Which set of side lengths cannot form a right triangle?  
[A] 18 mm, 24 mm, 30 mm  
[B]  $\frac{9}{2}$  mm, 6 mm,  $\frac{15}{2}$  mm  
[C] 10 mm, 12 mm, 15 mm  
[D] 9 mm, 12 mm, 15 mm
9. Which set of the three numbers do *not* represent the lengths of the sides of a right triangle?  
[A] 9, 12, 15      [B] 12, 16, 20  
[C] 7, 24, 25      [D] 7, 7, 14  
[E] 5, 12, 13
10. Which of the following could NOT be the lengths of the sides of a right triangle?  
[A] 5 in., 12 in., 14 in.  
[B] 1.5 m, 2 m, 2.5 m  
[C] 9 ft, 12 ft, 15 ft  
[D] 4 cm, 7.5 cm, 8.5 cm

[1] yes

[2] no

[3] yes

[4] It is not a right triangle since  $8^2 + 10^2 \neq 15^2$ .

[5] B

[6] C

[7] D

[8] C

[9] D

[10] A