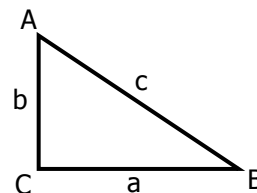


Section 8.3: Converse of Pythagorean Theorem

Pythagorean Theorem:

If $\triangle ABC$ is a right \triangle , then $c^2 = a^2 + b^2$



Converse of PT:

If _____, then _____.

Theorem 8-3

If c^2 ___ $a^2 + b^2$, then $\angle C$ is a(n) _____ angle and $\triangle ABC$ is a(n) _____ \triangle .

Theorem 8-4

If c^2 ___ $a^2 + b^2$, then $\angle C$ is a(n) _____ angle and $\triangle ABC$ is a(n) _____ \triangle .

Theorem 8-5

If c^2 ___ $a^2 + b^2$, then $\angle C$ is a(n) _____ angle and $\triangle ABC$ is a(n) _____ \triangle .

◆ _____ is always the length of the longest side

◆ Always check to make sure it's a triangle first!!!

How do we do this?

If a triangle is formed with the given lengths, is it acute, right or obtuse?

1) 2, $2\sqrt{3}$, 4

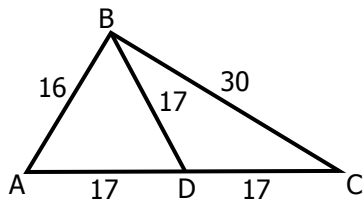
2) 8, 9, 12

3) 5, 5, $5\sqrt{3}$

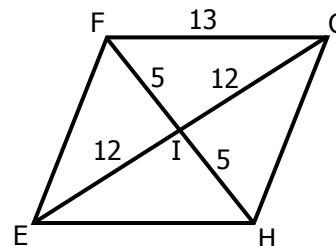
4) 5, 11, 16

If each diagram *were* drawn to scale, which angle(s) would be right angles?

5) _____



6) _____



Similarity in Right Triangles; The Pythagorean Theorem

For use after Section 8-2

Simplify.

1. $\sqrt{100}$ _____

2. $2\sqrt{50}$ _____

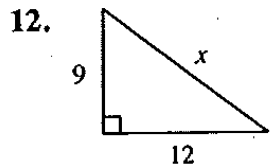
3. $\sqrt{20} \cdot \sqrt{6}$ _____

4. $\frac{2}{\sqrt{5}}$ _____

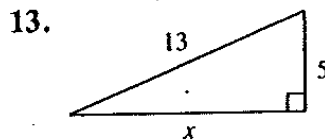
5. $\sqrt{\frac{1}{3}}$ _____

6. $\left(\frac{\sqrt{3}}{3}\right)^2$ _____

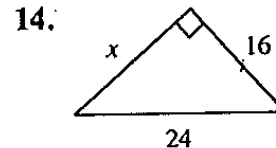
Find the value of x .



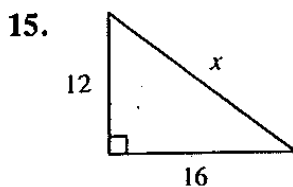
$x =$ _____



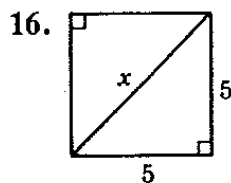
$x =$ _____



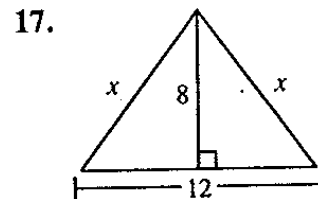
$x =$ _____



$x =$ _____



$x =$ _____



$x =$ _____

18. A rectangle has length 2.4 m and width 0.7 m. Find the length of a diagonal. _____

19. A square has perimeter 12 cm. Find the length of a diagonal. _____

20. The diagonals of a rhombus have lengths 12 and 16. Find the perimeter of the rhombus. _____

21.) Alex leaned a 17 foot ladder against the house. The bottom of the ladder is 8 feet from the house. How high up the side of the house is the top of the ladder? _____

22.) The measures of three sides of a triangle are 9, 16, and 20. Determine whether the triangle is a right triangle. _____

23.) George rides his bike 9 KM south and then 12 KM east. How far is he from his starting point?
