

Name \_\_\_\_\_

Date \_\_\_\_\_

Block \_\_\_\_\_

### Mid-chapter 9 Review – Right Triangles

**Simplify: All answers must be in simplified radical form**

1.  $\sqrt{200}$

4.  $\sqrt{\frac{3}{4}}$

2.  $-3\sqrt{75}$

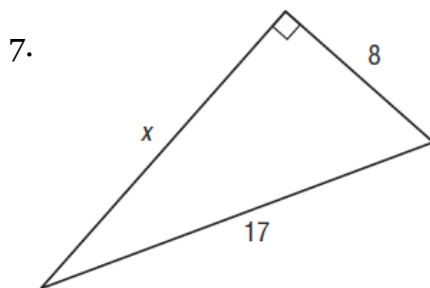
5.  $\frac{\sqrt{2}}{\sqrt{3}}$

3.  $(2\sqrt{10})(3\sqrt{5})$

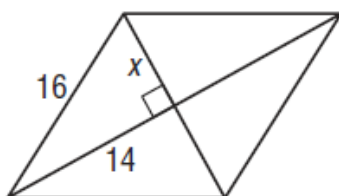
6.  $\frac{3}{\sqrt{15}}$

Find the value of  $x$ . Then tell whether the side lengths form a Pythagorean triple.

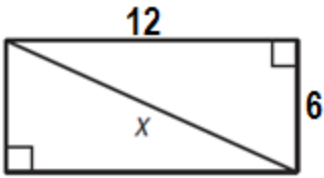
**(Answers in Simplest radical form)**



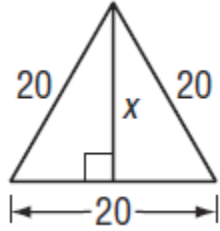
8.



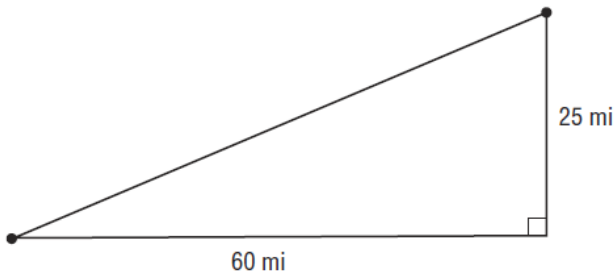
9.



10.



**11. FLIGHT** An airplane lands at an airport 60 miles east and 25 miles north of where it took off.  
How far apart are the two airports?



**What type of triangle, if any, is described below? (Classify: Acute  $\Delta$ , Right  $\Delta$ , Obtuse  $\Delta$ )**

12. 3, 4, 5 \_\_\_\_\_

13. 4, 9, 11 \_\_\_\_\_

14. 2, 8, 8 \_\_\_\_\_

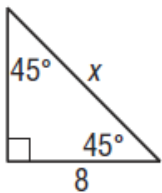
15. 2, 3, 6 \_\_\_\_\_

The given lengths are two sides of a right triangle. All three sides lengths of the triangle are integers and together form a Pythagorean triple. Find the length of the third side and tell whether it is a leg or the hypotenuse.

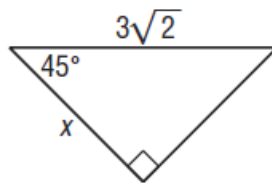
16. 24 and 45

17. 15 and 25

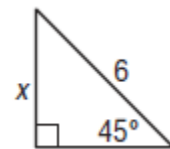
18. Find  $x$ :



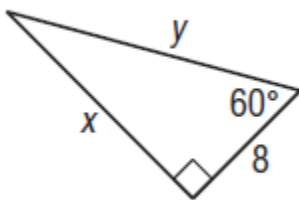
19. Find  $x$ :



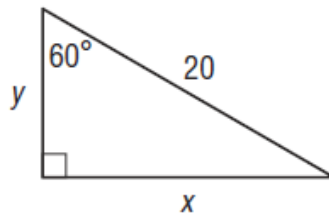
20. Find  $x$ :



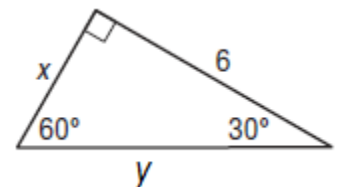
21. Find  $x$  and  $y$ :



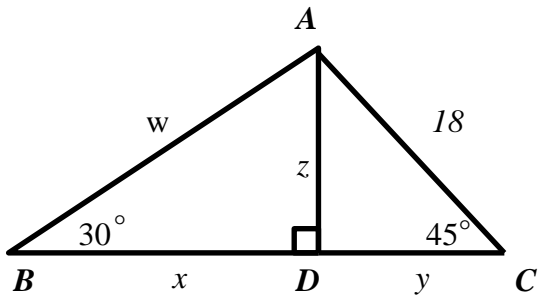
22. Find  $x$  and  $y$ :



23. Find  $x$  and  $y$ :



24. Find  $x$ ,  $y$  and  $z$ .



25. An equilateral triangle has an altitude of  $12\sqrt{3}$  inches. What is the side length of the triangle?

26. The length of a diagonal of a square is  $24\sqrt{2}$  millimeters. Find the perimeter and area of the square.

27. **CONSTRUCTION** The bottom end of a ramp at a warehouse is 10 feet from the base of the main dock and is 11 feet long. How high is the dock?

