

WRITING IN SIMPLIFIED RADICAL FORM

PERFECT SQUARE #S: 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169. . .

Put each radical in simplified form. Your answers should NOT be decimals.

1. $\sqrt{32}$

2. $\sqrt{75}$

3. $\sqrt{20}$

4. $\sqrt{18}$

5. $\sqrt{8}$

6. $\sqrt{28}$

7. $\sqrt{125}$

8. $\sqrt{84}$

9. $\sqrt{72}$

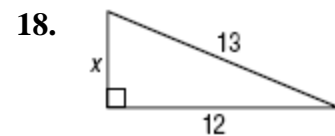
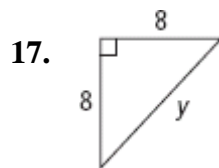
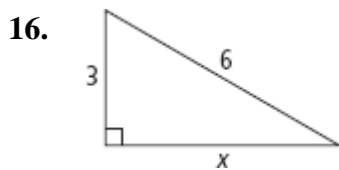
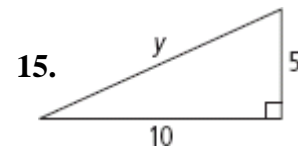
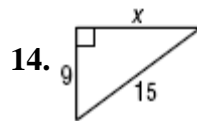
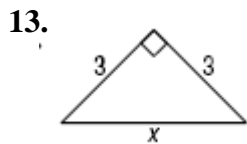
10. $\sqrt{99}$

11. $\sqrt{128}$

12. $\sqrt{98}$

THE PYTHAGOREAN THEOREM: $a^2 + b^2 = c^2$

Find the value of x. Write your answers rounded to the nearest tenth or in simplified radical form if needed.



CONVERSE OF THE PYTHAGOREAN THEOREM

Use the Pythagorean Theorem to determine if each set of sides would form a right , acute, or obtuse triangle. You must show your work.

19. 19, 20, 28

20. 8, 24, 25

21. 33, 56, 65

22. 4, 5, 6

23. 5, 6, 10

24. 8, 15, 17

Draw and label a diagram of the situation. Use the Pythagorean Theorem to answer the question. Show your work.

25. A soccer field is a rectangle 90 meters wide and 120 meters long. The coach asks players to run from one corner to the corner diagonally across the field. How far do the players run?

26. The bottom of a 13-foot straight ladder is set into the ground 5 feet away from a wall. When the top of the ladder is leaned against the wall, what is the distance above the ground it will reach?

27. A baseball “diamond” is actually a square with sides of 90 feet. If a runner tries to steal second base, how far must the catcher, at home plate, throw to get the runner “out”?

28. Jill’s front door is 42” wide and 84” tall. She purchased a circular table that is 96 inches in diameter. Will the table fit through the front door? How do you know for sure?