

Using Special Right Triangles

Date_____ Period____

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Draw the figure, then solve for the missing measure. Give your answer as BOTH a simplified radical AND a decimal measure rounded to the nearest tenth.

- 1) The side of a square measures 3 inches. Find the length of the diagonal of the square.
- 2) The side of a square measures 10 inches. Find the length of the diagonal of the square.
- 3) The diagonal of a square measures $6\sqrt{2}$ feet. Find the length of one side of the square.
- 4) The diagonal of a square measures 4 inches. Find the length of one side of the square.
- 5) A garden is planned in the shape of a square. A walkway is paved along the diagonal. If the walkway must measure only 15 feet, how long is one side of the garden?
- 6) You are putting your new pet hamsters in a square box together for the ride home, but they cannot be together. You decide to separate them by placing a piece of cardboard along the diagonal. If one side of the box is 12 inches long, how long does the piece of cardboard have to be?

7) The diagonal of a square measures $3\sqrt{2}$ feet.
What is the perimeter of the square?

8) The diagonal of a square measures $4\sqrt{2}$ feet.
What is the area of the square?

9) The area of a square is 64 square centimeters.
Find the length of the diagonal.

10) One side of an equilateral triangle measures 4 feet. What is the measure of the altitude of the triangle?

11) One side of an equilateral triangle measures 13 inches. What is the measure of the altitude of the triangle?

12) The altitude of an equilateral triangle measures $5\sqrt{3}$ centimeters. Find the length of one side of the triangle.

13) The altitude of an equilateral triangle measures 9 centimeters. Find the length of one side of the triangle.

14) You are planning a playground in the shape of an equilateral triangle. The walkway around the entire playground is 36 yards. Your friend suggests another walkway that will cut the playground exactly in half. How long will that walkway be?

15) The hypotenuse of a 30-60-90 triangle measures 16 feet. What is the measure of the shortest side?

16) The perimeter of an equilateral triangle is 15 inches. Find the measure of the altitude.

17) Find the length of a side of a square whose diagonal is 6 cm.

18) The altitude of an equilateral triangle measures 10 in. Find the perimeter of the triangle.

19) The altitude of an equilateral triangle measures 15 feet. Find the perimeter of the triangle.

20) The altitude of an equilateral triangle measures 12 centimeters. Find the area of the triangle.