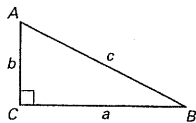


Practice B

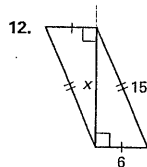
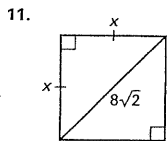
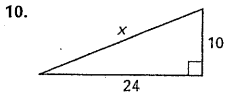
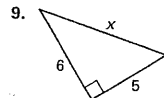
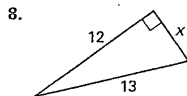
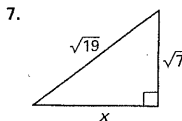
For use with pages 535-541

Use $\triangle ABC$ to determine if the equation is true or false.

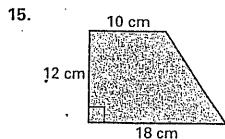
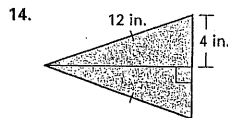
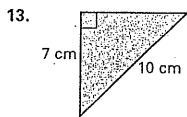
- $b^2 + a^2 = c^2$
- $c^2 - a^2 = b^2$
- $b^2 - c^2 = a^2$
- $c^2 = a^2 - b^2$
- $c^2 = b^2 + a^2$
- $a^2 = c^2 - b^2$



Find the unknown side length. Simplify answers that are radicals. Tell whether the side lengths form a Pythagorean triple.

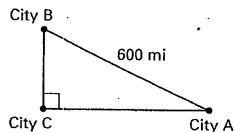


Find the area of the figure. Round decimal answers to the nearest tenth.



Solve. Round your answer to the nearest tenth.

16. A smaller commuter airline flies to three cities whose locations form the vertices of a right triangle. The total flight distance (from city A to city B to city C and back to city A) is 1400 miles. It is 600 miles between the two cities that are furthest apart. Find the other two distances between cities.

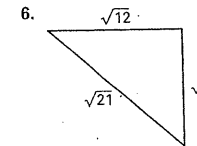
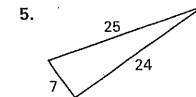
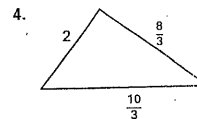
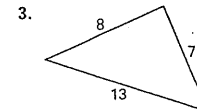
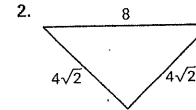
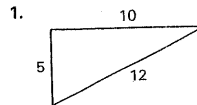


17. Each base on a standard baseball diamond lies 90 feet from the next. Find the distance the catcher must throw a baseball from 3 feet behind home plate to second base.

Practice B

For use with pages 543-549

Tell whether the triangle is a right triangle.



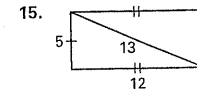
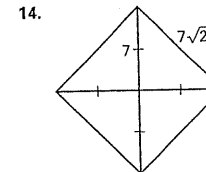
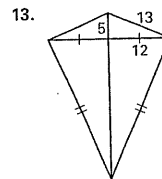
Decide whether the numbers can represent the side lengths of a triangle. If they can, classify the triangle as right, acute, or obtuse.

7. 5, 12, 13
10. 15, 36, 39

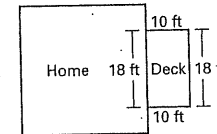
8. $\sqrt{8}$, 4, 6
11. $\sqrt{13}$, 10, 12

9. 20, 21, 28
12. 14, 48, 50

Classify the quadrilateral. Explain how you can prove that the quadrilateral is that type.



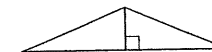
16. **Deck** A contractor is building a deck adjacent to a home as shown. How can he be sure that the deck is square (the corners are right angles) when he lost his t-square and only has a tape measure? Explain your reasoning.



Roof In Exercises 17 and 18, use the diagram and the following information.

The slope of the roof is $\frac{5}{12}$. The height of the roof is 15 feet.

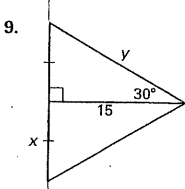
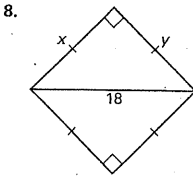
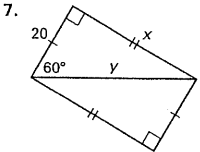
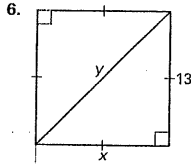
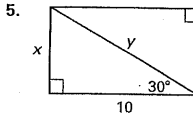
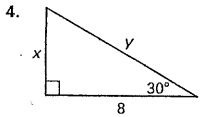
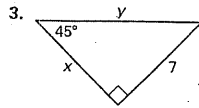
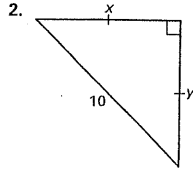
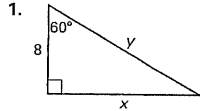
17. What is the length from gutter to peak of the roof?
18. If a row of shingles is 5 inches high, how many rows of shingles are needed for one side of the roof?



Practice B

For use with pages 551-557

Find the value of each variable. Write answers in simplest radical form.



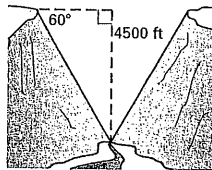
Sketch the figure that is described. Find the requested length. Round decimals to the nearest tenth.

- The perimeter of a square is 20 centimeters. Find the length of a diagonal.
- The altitude of an equilateral triangle is 18 inches. Find the length of a side.
- The hypotenuse of an isosceles right triangle is 16 centimeters. Find the length of a side.
- The length of the diagonal of a square is $\frac{5\sqrt{2}}{2}$. Find the length of a side.

Canyon In Exercises 14-16, use the diagram and the following information.

A point on the edge of a symmetrical canyon is 4500 feet above a river that cuts through the canyon floor. The angle of depression from each side of the canyon to the canyon floor is 60° .

- Find the distance across the canyon.
- Find the length of the canyon wall (from the edge to the river).
- Is it more or less than a mile across the canyon? (5280 feet = 1 mile)



Practice B *9.2*

- true
- true
- false
- false
- true
- true
- $2\sqrt{3}$, no
- 5, yes
- $\sqrt{61}$, no
- 26, yes
- 8, no
- $3\sqrt{21}$, no
- 25 cm^2
- 45.3 in.^2
- 168 cm^2
- $400 + 100\sqrt{2} \approx 541.4 \text{ mi}$,
- $400 - 100\sqrt{2} \approx 258.6 \text{ mi}$
- 130.3 ft

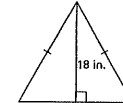
Practice B *9.3*

- no
- yes
- no
- yes
- yes
- yes
- yes, right
- yes, obtuse
- yes, acute
- yes, right
- yes, obtuse
- yes, right

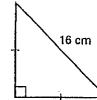
9.4

Practice B

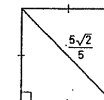
- $x = 8\sqrt{3}, y = 16$
- $x = 5\sqrt{2}, y = 5\sqrt{2}$
- $x = 7, y = 7\sqrt{2}$
- $x = \frac{8\sqrt{3}}{3}, y = \frac{16\sqrt{3}}{3}$
- $x = \frac{10\sqrt{3}}{3}, y = \frac{20\sqrt{3}}{3}$
- $x = 13, y = 13\sqrt{2}$
- $x = 20\sqrt{3}, y = 40$
- $x = 9\sqrt{2}, y = 9\sqrt{2}$
- $x = 5\sqrt{3}, y = 10\sqrt{3}$
- diagonal $\approx 7.1 \text{ cm}$
- side $\approx 20.8 \text{ inches}$



12. side $\approx 11.3 \text{ cm}$



13. side = $\frac{5}{2}$



14. $3000\sqrt{3} \text{ ft} \approx 5196.2 \text{ ft}$

15. $3000\sqrt{3} \text{ ft} \approx 5196.2 \text{ ft}$

16. less