Name Date

Unit Assessment

Square Roots and Right Triangles Assessment

DIRECTIONS: Write each answer in the space provided.

Name the two consecutive integers between which the number lies.

1. $\sqrt{170 - 43}$

Use a calculator to approximate the value to the nearest tenth.

2. $\sqrt{40.2}$

Solve using your calculator. Express your answer to the nearest tenth.

3. A square floor has an area of 47 m^2. Find the length of one side.

Is the triangle with sides of the given lengths a right triangle? Explain why or why not.

4. 6, 9, 12

Answer: Not a right triangle because the sides are not proportional to a 3,4,5 triangle.

Also, it doesn't work out using the Pythagorean Theorem either.

5. 40, 75, 85

Answer: Yes, it works out using the Pythagorean Theorem.

Answers

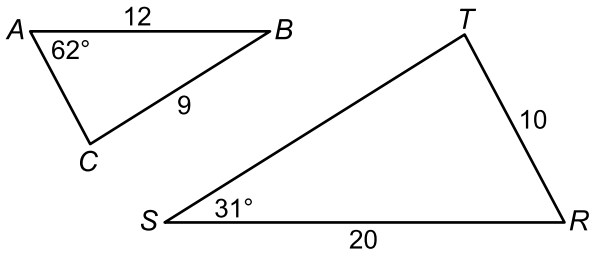
1. 11, 12

2. 6.3

3. 6.9

Unit Assessment

For Questions 6–7, refer to the diagram below.
$\triangle ABC \sim \triangle RST$



6. $\frac{AB}{SR} = \frac{?}{TS}$

7. Find the length of $\overline{AC}$.

For Problems 8–9, choose the answer that best describes the length.

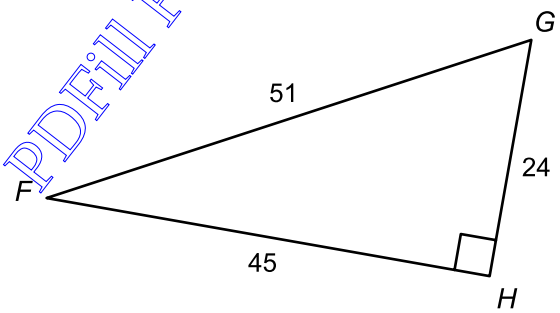
8. The height of an equilateral triangle with sides 14 cm long is:

A. $7\sqrt{2}$ cm B. $7\sqrt{3}$ cm C. $7\sqrt{2}$ cm D. $14\sqrt{3}$ cm

9. The length of each leg of a 45° right triangle, whose hypotenuse is 24 is:

A. $24\sqrt{3}$ B. $24\sqrt{2}$ C. $12\sqrt{3}$ D. $12\sqrt{2}$

For Questions 10–12, refer to the diagram below.
Give all ratios in lowest terms.



10. tan *G*

11. cos *F*

12. sin *G*

Answers

6. BC

7. 6

8. B

9. D

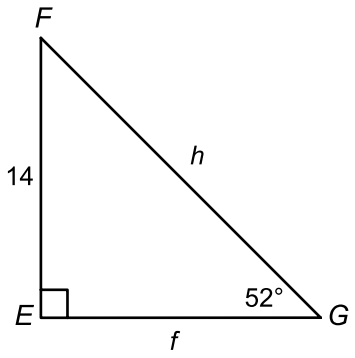
10. 15/8

11. 15/17

12. 15/17

Unit Assessment

Find the missing values for ΔEFG. Round angle measures to the nearest degree and lengths to the nearest tenth.



13. The measure of angle *F*.

14. The length marked *h*.

Solve for the missing length.

15. Find the length of the diagonal of an 8 m by 15 m rectangle.

16. The altitude to the base of an isosceles triangle measures 30 cm. If each of the equal sides is 34 cm, find the length of the base of the triangle.

Answers

13. 38 degrees

14. 17.8

15. 17 m

16. 32 cm