

## Pythagorean Theorem and the distance formula

Student Activity Sheet 1; use with *Overview*

---

1. **REVIEW** Simplify each radical expression without a calculator.

a.  $\sqrt{225} =$  \_\_\_\_\_

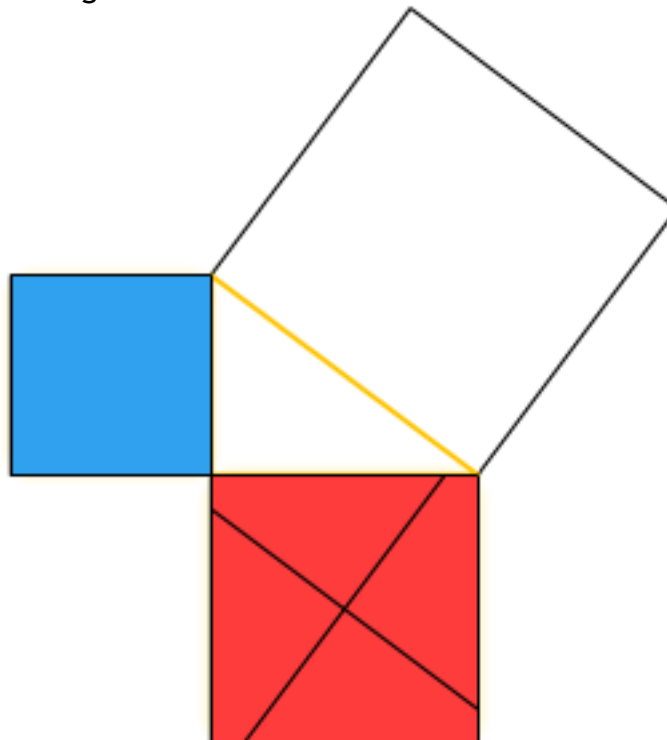
b.  $\sqrt{48} =$  \_\_\_\_\_

c.  $\sqrt{54} =$  \_\_\_\_\_

d.  $\sqrt{135} =$  \_\_\_\_\_

2. State the Pythagorean Theorem in words and using an algebraic equation.

3. Cut the pieces in the squares on the legs of the right triangle and fill the square on the hypotenuse of the right triangle.

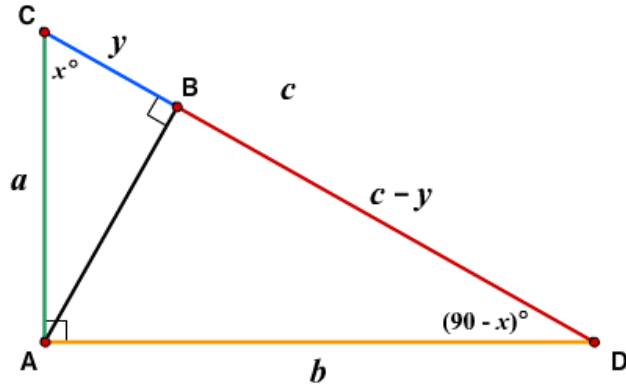


## Pythagorean Theorem and the distance formula

Student Activity Sheet 1; use with *Overview*

---

4. Use similar triangles and geometric means to prove the Pythagorean Theorem.



5. **REINFORCE** Find the area of an equilateral triangle with sides 6 cm.

6. **REINFORCE** Use the Pythagorean Theorem to show that the diagonals of any rectangle are congruent.

## Pythagorean Theorem and the distance formula

Student Activity Sheet 1; use with *Overview*

---

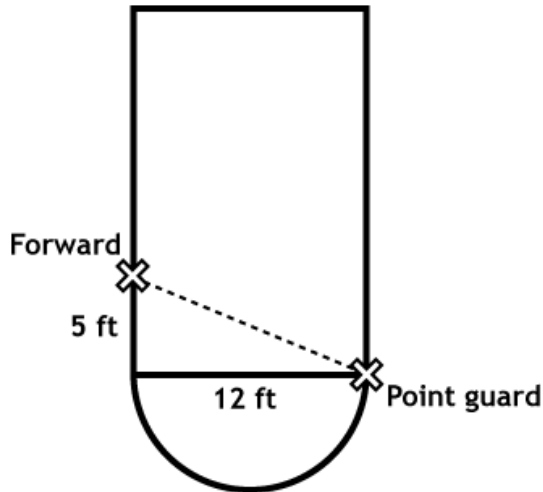
7. **REINFORCE** Find the length of the hypotenuse of a right triangle with legs of 5 cm and 6 cm.
8. **REINFORCE** A garden plot is in the shape of a right triangle. The right triangle has a hypotenuse of 10 feet and one leg that is 7 feet long. How long is the other leg of the triangle?
9. **REINFORCE** A painter leans his 15-foot ladder against the side of a house. The base of the ladder sits on the ground 9 feet away from the house. How high up the house does the ladder reach?

### Pythagorean Theorem and the distance formula

Student Activity Sheet 1; use with *Overview*

---

10. **REINFORCE** A basketball coach is teaching a new drill. In this drill the point guard must pass the ball to the forward. What is the length of the pass?



11. **REINFORCE** On the map, highways I-35 and I-10 run perpendicular to each other. The distance between Allentown and Georgetown is 45 miles. The distance between Georgetown and Masonville is 28 miles. The dashed line on the map indicates a train track that connects Allentown and Masonville. What is the distance (in miles) from Allentown to Masonville by train?

