

DIRECTIONS: Solve each problem. If there are two correct answers, give both of them.

1. The sum of a number and its square is 72. Find the number.
2. Find a number that is 56 less than its square.
3. Find two consecutive odd integers whose product is 143.
4. Find two consecutive odd integers the sum of whose squares is 130.
5. A rectangle is 4 cm longer than it is wide, and its area is 117 cm^2 . Find its dimensions.
6. A rectangular garden has a perimeter of 66 ft and an area of 216 ft^2 . Find the dimensions of the garden.
7. The area of a right triangle is 44 m^2 . Find the lengths of its legs if one of the legs is 3 m longer than the other.
8. Two ships leave port, one sailing east and the other sailing south. Later, they are 17 miles apart, with the eastbound ship 7 miles farther from port than the southbound ship. How far is each from port?
9. The top of a 15-foot ladder is 3 ft farther up a wall than the foot of the ladder is from the bottom of the wall. How far is the foot of the ladder from the bottom of the wall?
10. The height of a triangle is 7 cm greater than the length of its base, and its area is 15 cm^2 . Find the height.

- 11.** The hypotenuse of a right triangle is 25 m long. The length of one leg is 10 m less than twice the other. Find the length of each leg.
- 12.** The side of a large tent is in the shape of an isosceles triangle whose area is 54 ft^2 and whose base is 6 ft shorter than twice its height. Find the height and the base of the side of the tent.
- 13.** A rectangle is 15 cm wide and 18 cm long. If both dimensions are decreased by the same amount, the area of the new rectangle formed is 116 cm^2 less than the area of the original. Find the dimensions of the original rectangle.
- 14.** A rectangle is twice as long as it is wide. If its length is increased by 4 cm and its width is decreased by 3 cm, the resulting rectangle has an area of 100 cm^2 . Find the dimensions of the original rectangle.
- 15.** When 0.5 cm was planed off each of the six faces of a wooden cube, its volume decreased by 169 cm^3 . Find its new volume.
- 16.** The width, length, and diagonal of a rectangle are consecutive even integers. Find the integers.
- 17.** A rectangular corner lot, originally twice as long as it was wide, lost a 2-meter strip along two adjacent sides due to street widening. Its new area is 684 m^2 . Find its new dimensions.