

1. A rectangle has dimensions $x + 8$ and $x - 2$. Determine the value of x that gives an area of 24 cm^2 .
2. A rectangle has a perimeter of 28 cm . Its area is 42 cm^2 . Determine the dimensions of the rectangle. Include a diagram in your solution.
3. The length of a rectangle is 5 cm greater than its width. The area is 104 cm^2 . Find the dimensions of the rectangle.
4. The hypotenuse of a right triangle measures 13 cm . One leg is 7 cm shorter than the other leg. What are the lengths of the two perpendicular sides?

Note: The two short sides of a right triangle are sometimes called “legs.” They are also perpendicular to one another.

5. The length of one leg of a right triangle is 17 cm more than that of the other leg. The length of the hypotenuse is 4 cm more than triple the length of the shorter leg. Find the lengths of each of the three sides.
6. The area of a triangle is 18 cm^2 , and the altitude is 3 cm greater than the base. What is the length of the base?
7. If the areas of the two shapes below are the same, what is the value of x ?



8. What is the value of x if the area of the shaded region is 26 m^2 ?

