

4-9 Area Problems (continued)

Solve.

1. A rectangle is twice as long as it is wide. If its length and width are both decreased by 4 cm, its area is decreased by 164 cm^2 . Find its original dimensions. **15 cm by 30 cm**
2. A rectangle is three times as long as it is wide. If its length and width are both increased by 3 m, its area is increased by 81 m^2 . Find its original dimensions. **6 m by 18 m**
3. A rectangle is 8 cm longer than it is wide. If its length and width are both increased by 2 cm, its area is increased by 68 cm^2 . Find its original dimensions. **12 cm by 20 cm**
4. A rectangle is 12 cm longer than it is wide. If its length and width are both decreased by 2 cm, its area is decreased by 108 cm^2 . Find its original dimensions. **22 cm by 34 cm**
5. A rectangular fish pond is 8 ft longer than it is wide. A wooden walk 2 ft wide is placed around the pond. The area covered by the pond and walk is 160 ft^2 greater than the area covered by the pond alone. What are the dimensions of the pond? **22 ft by 14 ft**
6. A rectangular swimming pool is 10 m longer than it is wide. A walkway 2 m wide surrounds the pool. Find the dimensions of the pool if the area of the walkway is 216 m^2 . **20 m by 30 m**
7. A poster is 24 cm taller than it is wide. If it is mounted on a piece of cardboard so that there is a 6 cm border on all sides and if the area of the border alone is 720 cm^2 , what are the dimensions of the poster? **12 cm by 36 cm**
8. A poster is 20 cm longer than it is wide. It is mounted on a piece of cardboard so that there is a 10 cm border on all sides. If the area of the border is 2400 cm^2 , what is the area of the poster? **2400 cm^2**
9. A house has two rooms of equal area. One room is square and the other is 6 ft narrower and 9 ft longer than the square room. Find the area of each room. **324 ft^2 ; 324 ft^2**
10. A baker has two pans with the same area. One pan is square and the other is 6 cm narrower and 8 cm longer than the square pan. Find the area of each pan. **576 cm^2 ; 576 cm^2**