

### **Dimensional Change in Area and Perimeter**

1. What happens to the perimeter of a rectangle with length 29 units and width 18 units when its dimensions are increased by 10 units?

2. Juan had a rectangular garden in his backyard that was 10 feet long by 6 feet wide. His father told him he could double the width in order to plant more vegetables. What is the perimeter of his new garden?

3. Paul had a small wading pool in his backyard. It had a radius of 10 ft. He wanted to replace it with a larger in-ground pool. He measured the backyard and found out that he had enough room for a pool with a diameter of 60 ft. How much bigger would the area of the new pool be than the area of the wading pool?

4. Two similar American flags are 2ft long and 6 ft long. If the area of the red fabric on the smaller flag is  $124\text{in}^2$ , what is the area of the red fabric on the larger one?

5. A store that specializes in realistic miniature furniture wants to model a circular end table. The company wants to reduce the diameter of the tabletop by a factor of  $\frac{1}{2}$ . How is the area of the tabletop affected?

6. In the house plans for his family's new home, Alex's room is planned to be 10ft by 12ft. The architect told Alex he could expand this room 5 ft in one direction.

a) Determine the new dimensions of Alex's room that would give him the greatest area.

b) Find the area and perimeter of the room using the new dimensions.