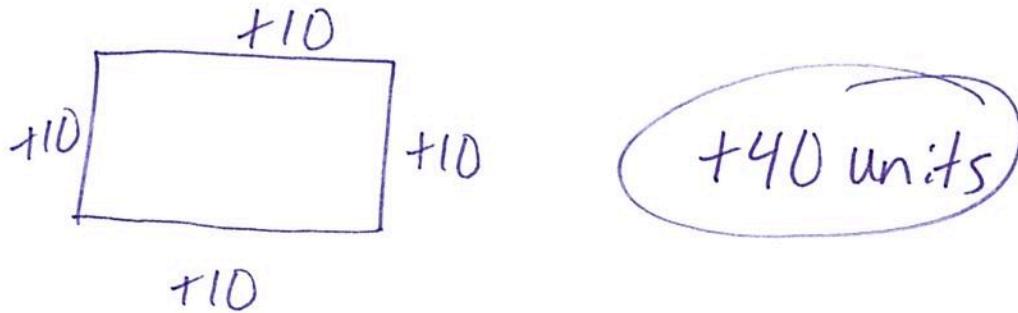
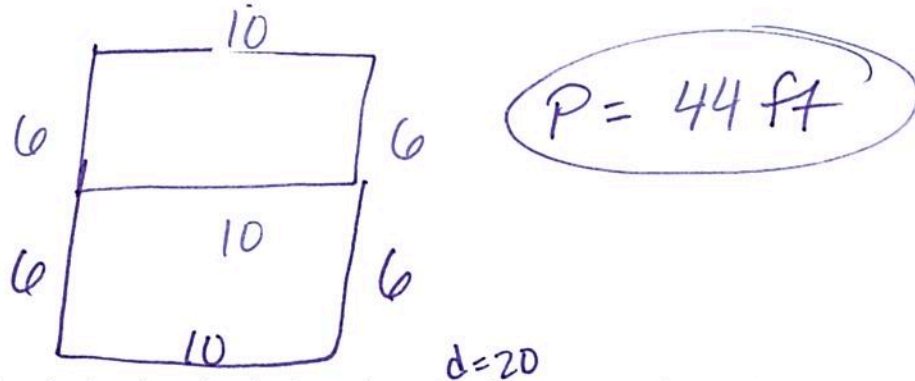


Dimensional Change in Area and Perimeter

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?

$$d=20$$

$$d=60$$

$$\text{scale} = \left(\frac{1}{3}\right)^2 \rightarrow \text{Area}$$

$$\boxed{\text{Area} = \frac{1}{9}}$$

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

Scale

$$\frac{2}{6} \rightarrow \frac{1}{3}$$

Area

$$\frac{1}{9} \neq \frac{124}{x}$$

$$1,116\text{in}^2$$

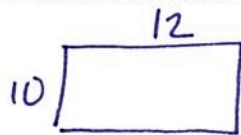
5. A store that specializes in realistic miniature furniture wants to model a circular end table. The company wants to reduce the diameter of the tabletop by a factor of $\frac{1}{2}$. How is the area of the tabletop affected?

Scale
 $\frac{1}{2}$

Reduced by $\frac{1}{4}$

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.

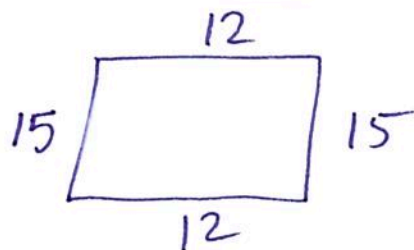


$$12 \times 15 = 180$$

or $17 \times 10 = 170$

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

$$A = 180 \text{ ft}^2$$



$$P = 54 \text{ ft}$$