

Week 9 Problem of the Week

Math 150

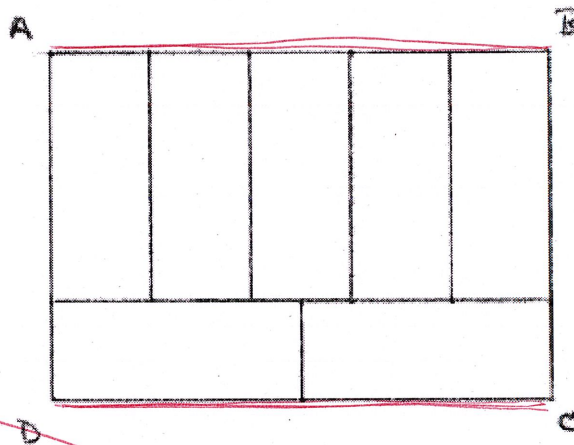
Seven smaller equal rectangles make up the larger rectangle ABCD. If rectangle ABCD has a perimeter of 136 units, find the area of one smaller rectangle.

For smaller
Rectangle



top & bottom

$$5w = 2L$$



$$P = 2(\text{Length}) + 2(\text{width}) \text{ of bigger rectangle}$$

$$136 = 2(5w) + 2(L+w)$$

$$136 = 10w + 2L + 2w$$

$$136 = 10w + 5w + 2w$$

$$136 = 17w$$

$$w = 8 \text{ and } 5(8) = 2L$$

$$40 = 2L$$

$$\rightarrow L = 20$$

Area of Small Rectangle

$$A = 8 \cdot 20$$

$$A = 160 \text{ square units}$$