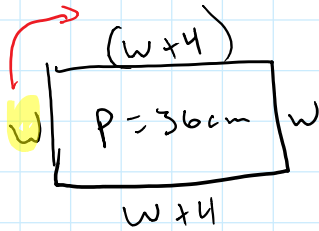


2-1 Homework

5. The length of a rectangle is 4 cm greater than its width. The perimeter is 36 cm. What are the dimensions of the rectangle?



$$w + (w+4) + w + (w+4) = 36$$

$$4w + 8 = 36$$

$$\underline{-8}$$

$$4w = 28$$

$$w = 7$$

$$w = 7 \text{ cm}$$

$$l = 11 \text{ cm}$$

$$\begin{array}{r} 11 \\ + 7 \\ \hline 18 \end{array}$$

$$\begin{array}{r} 18 \\ + 18 \\ \hline 36 = P \end{array}$$

Let  $w = \text{width}$

$$l = w + 4$$

17. A movie rental company offers two subscription plans. You can pay \$26 a month and rent as many movies as desired, or you can pay \$15 a month and \$1.50 to rent each movie. How many movies must you rent in a month for the first plan to cost less than the second plan.

$$\text{Plan 1} = P_1 = 26$$

$$\text{Plan 2} = P_2 = 1.5n + 15$$

$n = \# \text{ of movies}$

$$P_1 < P_2$$

$$P_2 > P_1$$

$$1.5n + 15 > 26$$

$$\underline{-15 \quad -15}$$

$$1.5n > 11$$

$$n > 7.\bar{3} = 7\frac{1}{3}$$

$$n = 7 \text{ movies}$$