

1. Find the value of the variable that is not given.

$$P = 2l + 2w, \quad P = 78, \quad l = 12$$

$$78 = 2(12) + 2w$$

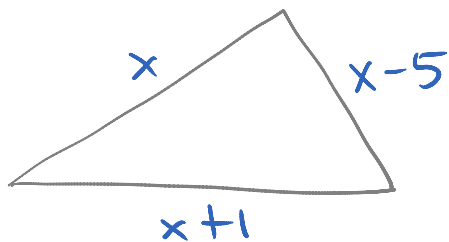
$$78 = 24 + 2w$$

$$\begin{array}{r} -24 \quad -24 \\ \hline \end{array}$$

$$\begin{array}{r} 54 = 2w \\ \hline 2 \quad 2 \end{array}$$

$$\boxed{27 = w}$$

2. The longest side of a triangle is 1 in. longer than the medium side. The medium side is 5 in. longer than the shortest side. If the perimeter is 32 in., what are the lengths of the three sides?



Perimeter

$$\underline{x} + (\underline{x-5}) + (\underline{x+1}) = 32$$

$$3x - 4 = 32$$

$$\begin{array}{r} +4 \quad +4 \\ \hline \end{array}$$

$$\begin{array}{r} 3x = 36 \\ \hline 3 \quad 3 \end{array}$$

$$x = 12$$

Let $x =$ medium side

$x+1 =$ longer side

$x-5 =$ shorter side

Shorter side: 7 in.
Medium side: 12 in.
Longer side: 13 in.

3. Solve $A = \frac{1}{2}bh$ for h .

$$2 \cdot A = 2 \cdot \frac{1}{2}bh$$

$$\frac{2A}{b} = \frac{\cancel{b}h}{\cancel{b}}$$

$$\frac{2A}{b} = h$$

$$\boxed{h = \frac{2A}{b}}$$