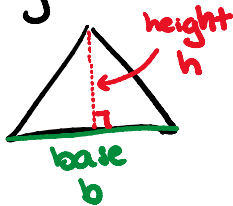
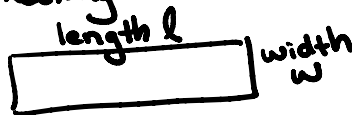


Perimeter = sum of all side lengths of a shape

Area of Triangle = $\frac{1}{2} \cdot b \cdot h$



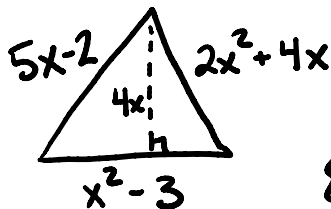
Area of Rectangle = $l \cdot w$



Area of Square = s^2



ex



$$P = (5x-2) + (2x^2+4x) + (x^2-3)$$

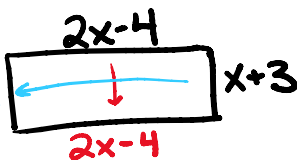
$$= 3x^2 + 9x - 5$$

$$A = \frac{1}{2} \cdot (x^2-3) \cdot (4x)$$

$$= 2x(x^2-3)$$

$$= 2x^3 - 6x$$

ex



$$P = (2x-4) + (2x-4) + (x+3) + (x+3)$$

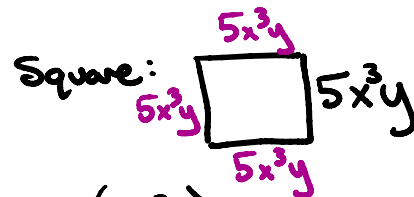
$$= 6x - 2$$

$$A = (2x-4) \cdot (x+3)$$

$$= 2x^2 + 6x - 4x - 12$$

$$= 2x^2 + 2x - 12$$

ex



$$P = 4 \cdot (5x^3y)$$

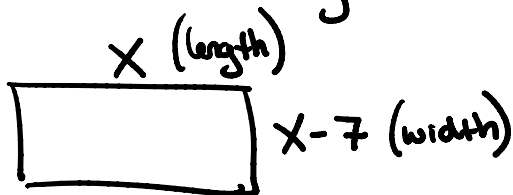
$$= 20x^3y$$

$$A = (5x^3y) \cdot (5x^3y) \text{ OR } (5x^3y)^2$$

$$= 25x^6y^2 \text{ OR } 25x^6y^2$$

ex The width of a rectangle is 7 less than its length.

a) Label the rectangle in terms x .



b) Write an equation for the Area of the rectangle.

$$A = (\text{length}) \cdot (\text{width})$$

$$= (x) \cdot (x-7)$$

$$= x^2 - 7x$$

c) Given that the area of the rectangle is 60,

c) Given that the area of the rectangle is 60, find the length and width (dimensions).

$$\begin{array}{r} \overline{)60} \\ -1 \quad 60 \\ \hline -2 \quad 30 \\ -2 \quad 30 \\ \hline -3 \quad 20 \\ -3 \quad 20 \\ \hline -4 \quad 15 \\ -4 \quad 15 \\ \hline -5 \quad 12 \\ -5 \quad 12 \\ \hline 5 \quad -12 \\ 5 \quad -12 \\ \hline 6 \quad 10 \\ 6 \quad 10 \\ \hline 6 \quad 0 \end{array}$$

$$x^2 - 7x = 60$$

$$\begin{array}{r} -60 \quad -60 \\ \hline \end{array}$$

$$x^2 - 7x - 60 = 0$$

$$(x+5)(x-12) = 0$$

$$x+5=0$$

$$x-12=0$$

$$\boxed{x = -5}$$

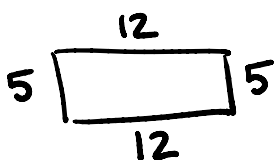
$$\boxed{x = 12}$$

↑
Cannot have
a negative
side length

$$\text{Length} = \underline{12}$$

$$\text{Width} = \underline{5}$$

d) Find the Perimeter of the rectangle.



$$\begin{aligned} P &= 12 + 12 + 5 + 5 \\ &= 34 \end{aligned}$$