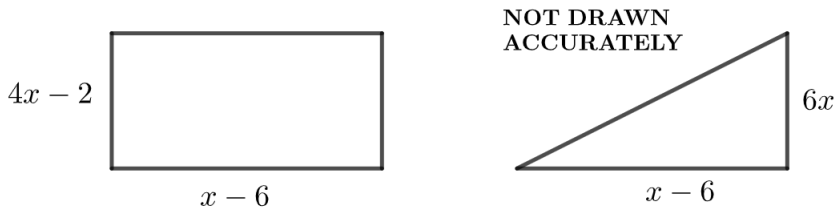
Question 1

The graph of $y = 3\,x + 6$ is reflected in the x-axis to give graph P.
Work out the equation of graph P.

Question 2

The area of the rectangle is greater than the area of the triangle.
Find the set of possible values of x.



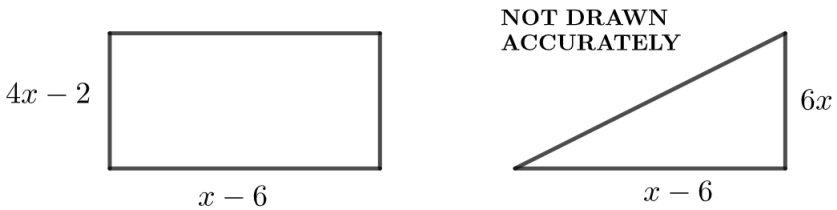
Question 1

The graph of $y = 3\,x + 6$ is reflected in the x-axis to give graph P.
Work out the equation of graph P.

A reflection of the graph of $y = f(x)$ in the x-axis gives the graph of $y = -f(x)$.
So the equation of graph P is $y = -3\,x - 6$.

Question 2

The area of the rectangle is greater than the area of the triangle.
Find the set of possible values of x.



$$(4x - 2)(x - 6) > \frac{6x(x - 6)}{2}$$

$\Rightarrow\ 4\,x^2 - 26\,x + 12 > 3\,x^2 - 18\,x$

$\Rightarrow\ x^2 - 8\,x + 12 > 0$

$\Rightarrow\ x^2 - 8\,x + 12 > 0\ \Rightarrow (x - 2)(x - 6) > 0$

$\Rightarrow\ x > 6$ (ignore $x <\ 2$ since lengths must be positive)