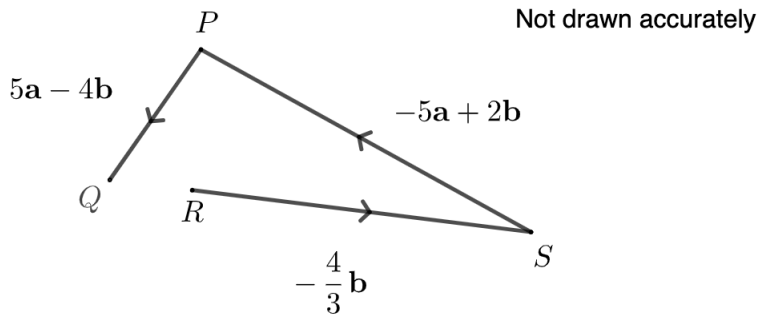
Target 8 Sheet 01B

Question 1

Solve:
$3\ x^2 + 30\ x - 56 = 5\ x - 6$

Question 2

Show that QRS is a straight line.



Question 1

Solve:
$3\,x^2 + 30\,x - 56 = 5\,x - 6$

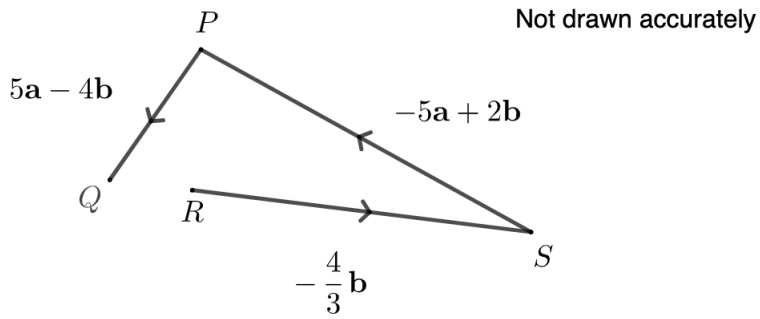
Rearranging, we get: $3\,x^2 + 25\,x - 50 = 0$

Factorising, we see $(x + 10)(3\,x - 5) = 0$

So $x = -10$, $x = \frac{5}{3}$

Question 2

Show that QRS is a straight line.



$\overrightarrow{QS} = \overrightarrow{QP} + \overrightarrow{PS}$
$= (-5\mathbf{a} + 4\mathbf{b}) + (5\mathbf{a} - 2\mathbf{b}) = 2\mathbf{b}$

$\overrightarrow{RS} = -\frac{4}{3}\mathbf{b} = \frac{2}{3}\overrightarrow{QS}$, so QRS is a straight line.