

## S4 Credit - Homework 1

### Non-calculator section:

- Find the value of
  - $3.1 - 1.8 \div 4$
  - $\frac{3}{4}$  of  $(\frac{2}{5} + 1\frac{1}{3})$
- The waiting times for taxis from a particular company are given below.

0	8	9			
1	2	4	5	5	8
2	0	0	1	3	9
3	2	4	5		
4	1	3			

1 | 3 represents 13  
n = 17

- For the given data, calculate
    - the median
    - the upper and lower quartiles
  - Calculate the semi-interquartile range
  - Show the information in a boxplot.
- Express as a single fraction in its simplest form

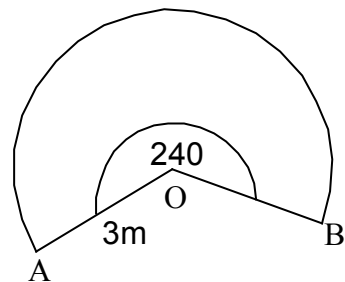
$$\frac{6}{x} - \frac{12}{2x-4}, \quad x \neq 0, 2$$

- Simplify  $2\sqrt{27} - \sqrt{12}$
  - Express with a rational denominator  $\frac{4}{\sqrt{10}}$
- Solve the equations 
$$\begin{aligned} 5x - 2y &= 11 \\ 2x + 3y &= 12 \end{aligned}$$

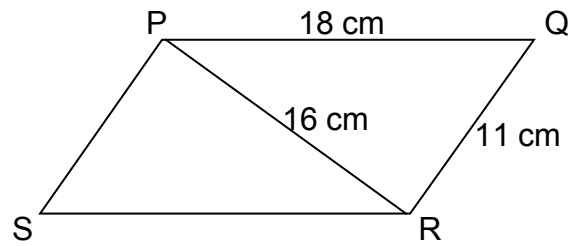
### Calculator section:

- The diagram opposite shows a sector of a circle with radius  $OA = 3$  metres. Angle  $AOB = 240^\circ$ .

Calculate the area of this sector.



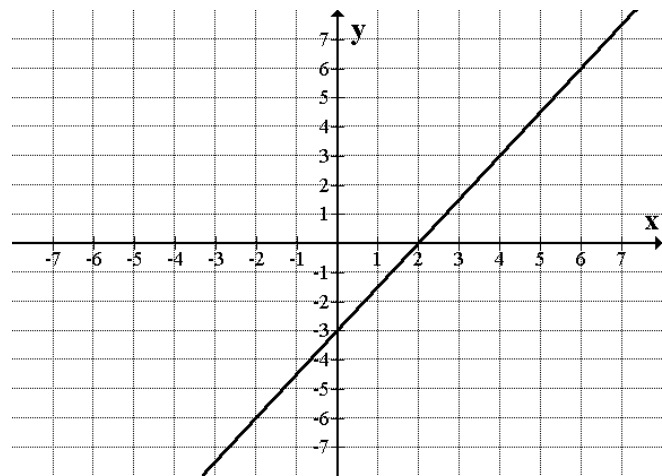
7. The sketch below shows a parallelogram PQRS.



(a) Calculate the size of angle PQR.

(b) Calculate the area of the parallelogram.

8. Find the equation of the line opposite.



9. A gardener grows tomatoes in his greenhouse. The temperature of the greenhouse, in degrees Celsius, is recorded every day at noon for one week.

17 22 25 16 21 16 16

(a) Calculate the mean and standard deviation of these temperatures.

For best growth the mean temperature should be  $(20 \pm 5)^\circ\text{C}$  and the standard deviation should be less than  $5^\circ\text{C}$ .

(b) Are the conditions in the greenhouse likely to result in best growth?