

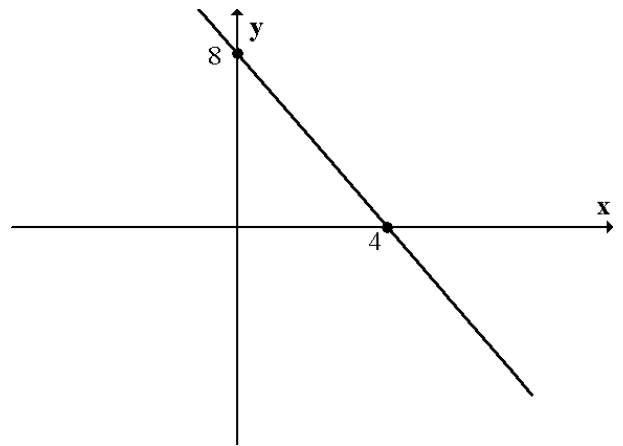
Credit Mathematics – Homework A

Non-calculator section:

1. Evaluate $4.1 - 0.47 \times 7$
2. $f(x) = 3x^2 - x^3$. Find $f(-2)$.
3. Expand the brackets and simplify $(2x - 5y)^2$
4. (a) Factorise $2x^2 - 8x$

(b) Hence simplify $\frac{2x^2 - 8x}{x^2 - 16}$

5. (a) Find the equation of the line opposite.
- (b) The point $(-6, a)$ lies on this line.
Find a .



Calculator section:

6. (a) The weekly wage of 6 different council workers is given below.

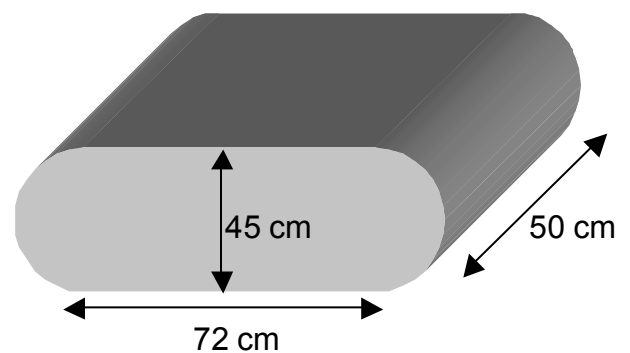
£240 £210 £215 £245 £260 £270

Calculate the mean and standard deviation of these wages.

- (b) Each worker is given a wage rise of £20. Write down, the mean and standard deviation of the wages now.

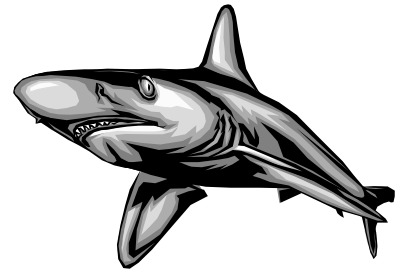
7. The prism opposite has a cross-section in the shape of a rectangle with semi-circular ends.

Calculate the volume of this prism.



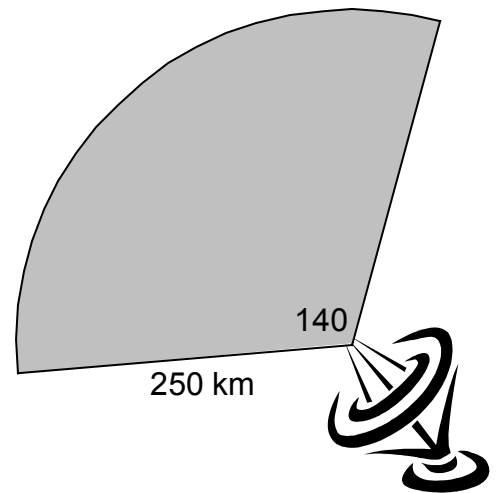
8. Solve the inequation $5 - (x - 3) > 2(x - 5)$

9. The population of sharks in the Indian ocean is estimated at 5 500 000. It is calculated that due to human intervention this population will fall at a rate of 8% p.a. for each of the next 5 years.
Calculate how many sharks there will be in 5 years time.



10. A satellite dish sends out a signal which sweeps through an angle of 140° and reaches a distance of 250 kilometres from the dish.

Calculate the area covered by the dish.



11. Triangle ABC has $AB = 31$ cm and $AC = 55$ cm.
Angle $BAC = 46^\circ$.

Calculate the length of BC.

