

ERRATA FOR INITIAL PRINT RUN

page 28 Topic 6 (Short questions)

6 c How many runners finished in a time between 2 and 5 minutes?

page 33 Topic 7

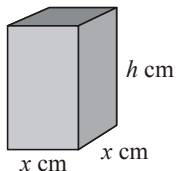
Final example has several mistakes and should read as follows:

Example:

A closed rectangular box has a square base of side x cm and a height of h cm. The internal surface area of the box is 400 cm^2 .

Show that the volume, $V \text{ cm}^3$, of the box is

$$V = 100x - \frac{x^3}{2}.$$



Hence, calculate the value of x to give the box a maximum volume.

Solution:

Surface area of the box is $A = 2x^2 + 4xh$

$$\therefore 400 = 2x^2 + 4xh$$

$$\therefore 4xh = 400 - 2x^2$$

$$\therefore h = \frac{400 - 2x^2}{4x}$$

If V is the volume of the box then $V = x^2h$

$$\therefore V = x^2 \left(\frac{400 - 2x^2}{4x} \right)$$

$$\therefore V = \frac{400x^2}{4x} - \frac{2x^4}{4x}$$

$$\therefore V = 100x - \frac{x^3}{2}.$$

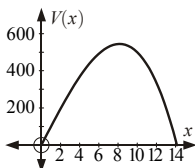
$$\therefore \frac{dV}{dx} = 100 - \frac{3x^2}{2}$$

For a turning point $\frac{dV}{dx} = 0$ and so $100 - \frac{3x^2}{2} = 0$

This equation has solution $x = \sqrt{\frac{200}{3}} \approx 8.16$

So, for maximum volume, $x \approx 8.16$ cm.

We check that this case provides a maximum by using a graphics calculator and a sketch of the graph.



page 42 Specimen examination B (Paper 1)

2 c Question should begin: ‘The farmer sends all sheep whose weight is more than 50% above the mean to the market.’

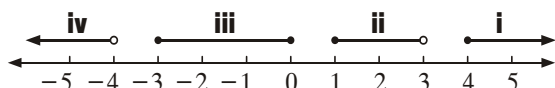
page 53 Solutions to Topic 2 (short questions)

21 b Last line should be: ‘Population reaches 2500 during the year 2009.’

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page 54 Solutions to Topic 2 (long questions)

2 a Diagram should be:



2 b Diagram should be:

