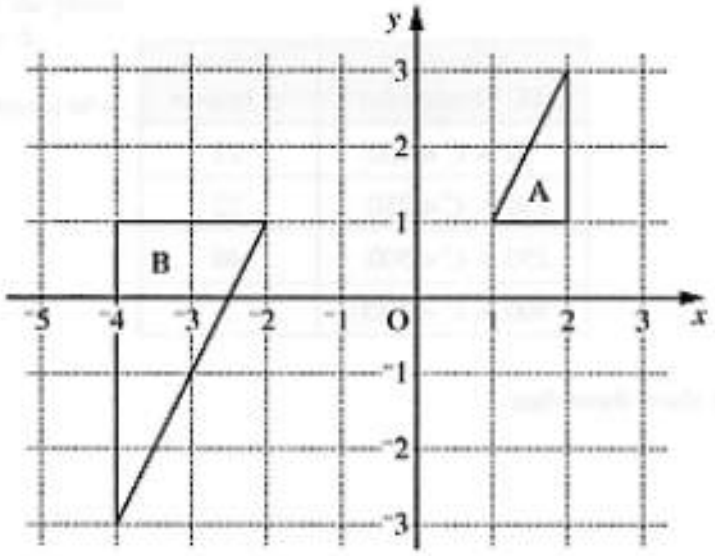
8



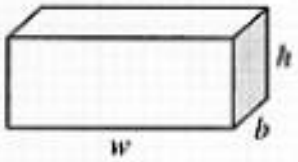
Describe fully the **single** transformation that maps triangle A on to triangle B.

.....

.....[3]

3

9



The formula for the surface area, A, of a closed box is given by

$$A = 2wb + 2wh + 2bh.$$

Rearrange this formula to make b the subject.

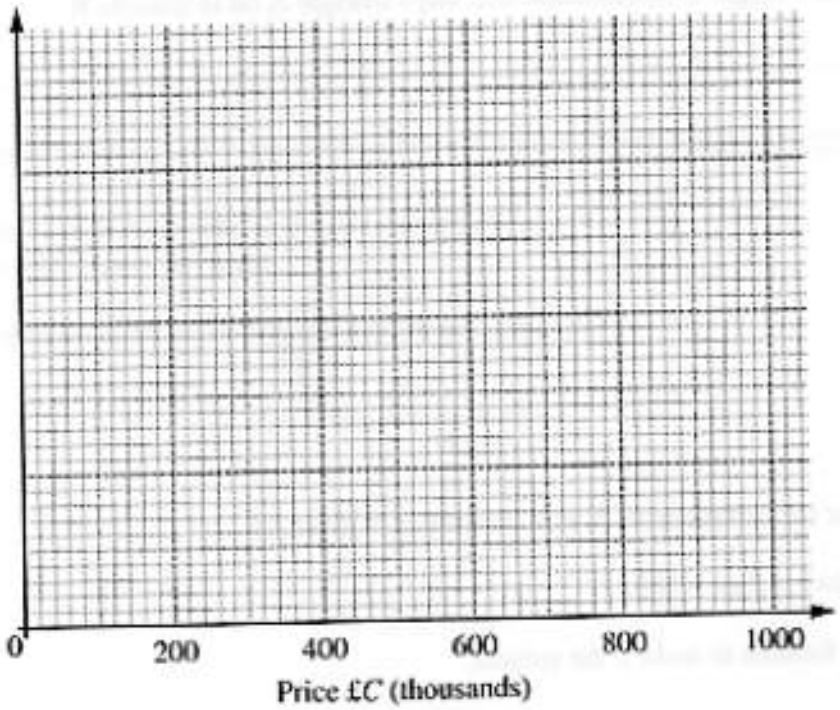
.....[3]

3

10 This table summarises the prices of 100 houses advertised for sale in a newspaper.

Price £C (thousands)	Number of houses
$50 \leqslant C < 150$	23
$150 \leqslant C < 250$	32
$250 \leqslant C < 500$	40
$500 \leqslant C < 1000$	5

Draw a histogram to show these data.



[3]

3

11 The cost, £C, of printing a film is proportional to the square of the width, w cm, of the prints.
$C = 1{\cdot}60$ when $w = 8$.

(a) Express C in terms of w.

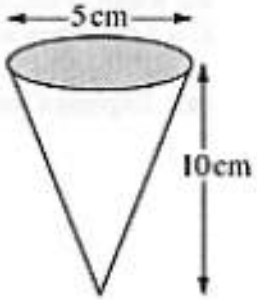
(a) .....[3]

(b) Calculate w when $C = 3{\cdot}60$.

(b) .....[2]

5

12 A standard ice cream cone has diameter 5 cm and height 10 cm.



(a) Ice cream is put into a standard cone until it is filled level with the top.

What volume of ice cream does the cone contain?

(a) .....cm^3 [3]

(b) A super cone is mathematically similar to a standard cone and contains 30% more ice cream.

What is the height of the super cone to the nearest centimetre?

(b) .....cm [3]

6

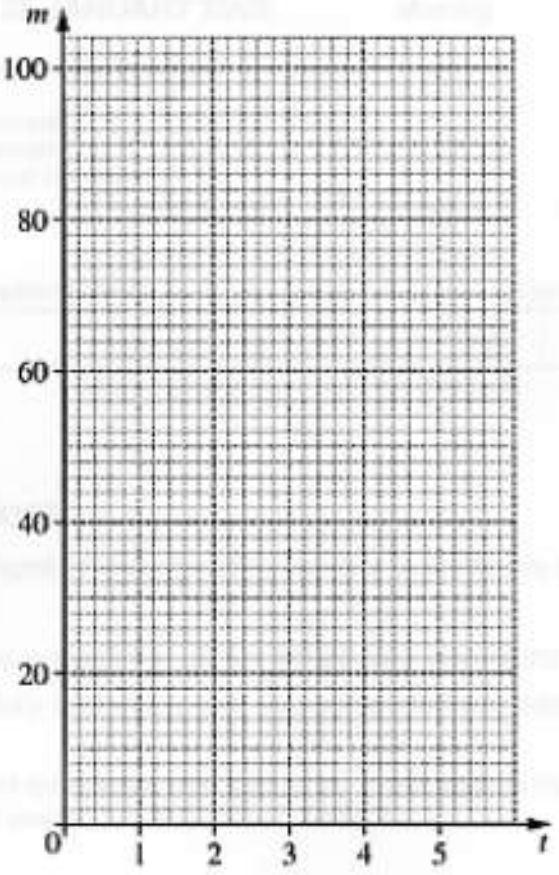
13 During a chemical reaction, the mass, m grams, of a chemical present after time, t minutes, is given by the formula $m = 80 \times 0{\cdot}5^t$.

(a) Complete this table of values.

Time (t minutes)	0	1	2	3	4	5
Mass (m grams)			20			2·5

[2]

(b) Draw the graph of m against t.



[2]

(c) Use your graph to solve the equation $80 \times 0{\cdot}5^t = 30$.

(c) .....minutes [1]

5