



- 8 (a) Show that one solution of the equation $x^3 - 4x - 2 = 0$ lies between 2 and 3.

.....[1]

- (b) Use trial and improvement to find this solution correct to one decimal place.
You must show all your trials and their outcomes.

(b) [3]

4

- 9 (a) Expand and simplify.

$$(x - 4)(x - 3)$$

(a) [2]

- (b) Factorise completely.

$$4a^2b - 6ab$$

(b) [2]

4



10 OCR electronics are having a sale.

- (a) The price of a washing machine is reduced from £450 to £393.75.

Calculate the percentage reduction.

(a)% [3]

- (b) The price of a television is reduced by 7.5%.

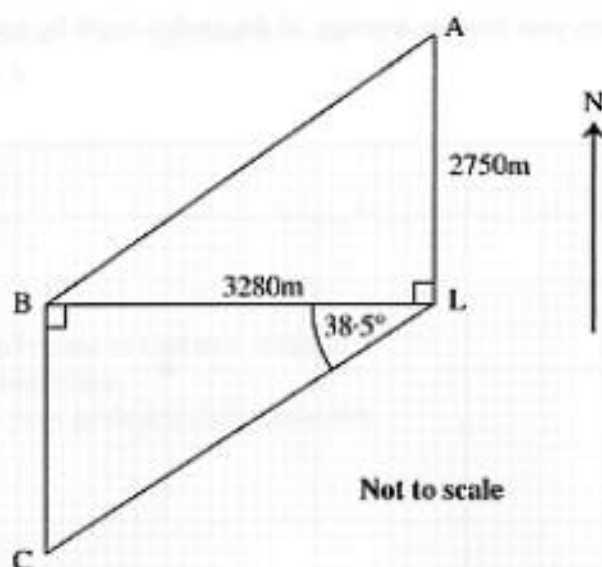
The price in the sale is £999.

Calculate the price of the television before the sale.

(b) £ [3]

6

11



The diagram shows the position of a lighthouse, L, and three ships A, B and C.

A is 2750 m North of L.

B is 3280 m West of L.

Angle BLC = 38.5° .

(a) Calculate the bearing of B from A.

(a) $^\circ$ [4]

(b) Calculate the distance CL.
Give your answer to a sensible degree of accuracy.

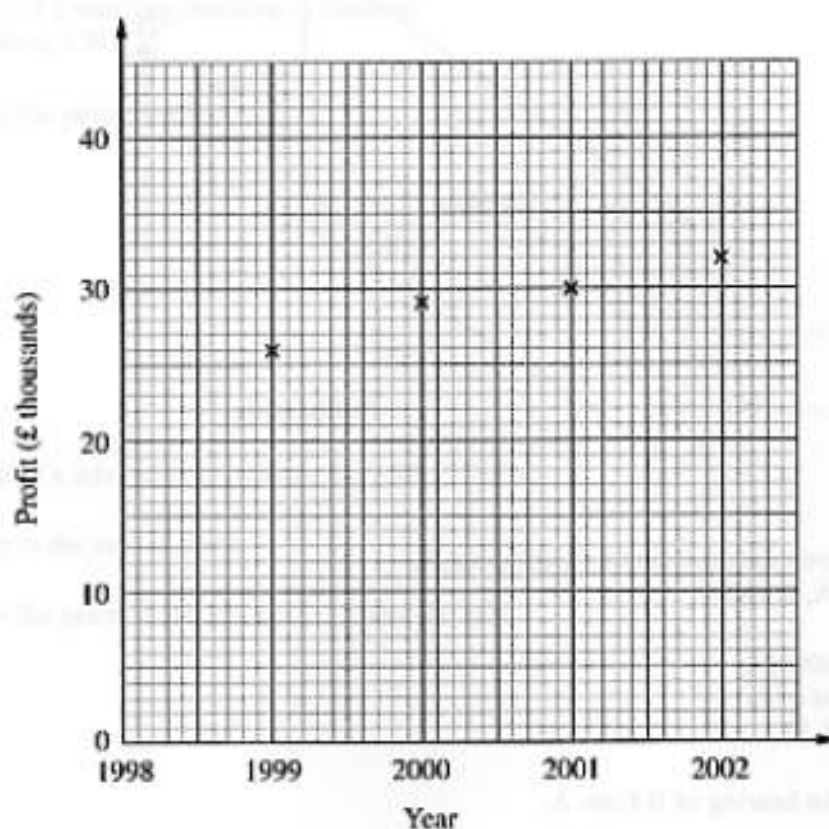
(b)m [4]

8

Turn over



- 12 This graph shows the three-year moving average of the profits made by a shop.



This table shows the profit made by the shop for five years.

Year	1998	1999	2000	2001	2002
Profit (£ thousands)	20	30	28	29	33

Use the table and the moving averages to show that the profit in 2003 was £34 000.

[3]

3
