1 A trader buys n crates of eggs at $28{,}000$ shillings each and pays $15{,}000$ shillings for transport.

(a) Write an expression for his total cost (1)

(b) Find the cost of 6 crates (1)

(c) He spent $267{,}000$ shillings. Write an equation and solve it to find how many crates he bought (2)

(d) Parts (b) and (c) used the same numbers in opposite directions. Write down what was different about them (2)

(8 marks)

2 The same trader has $250{,}000$ shillings to spend altogether.

(a) Write an inequality for the number of crates he can afford (2)

(b) Try $n = 8$ and $n = 9$ and write down both costs (2)

(c) What is the largest whole number of crates he can buy? (1)

(5 marks)

3 A rectangle has a length of 12 cm and a width of w cm.

(a) Write an expression for its perimeter, simplified (1)

(b) Find the perimeter when $w = 5$ (1)

(c) The perimeter is 38 cm. Write an equation and solve it to find the width (2)

(d) Factorise your expression from (a) (1)

(7 marks)

4 Solve each equation.

(a) $5(x - 2) = 35$ (1)

(b) $4n + 7 = 31$ (1)

(c) $2(3y + 1) = 26$ (1)

(d) $\dfrac{m}{4} + 3 = 9$ (1)

(4 marks)

5 Musa is x years old. His sister is 5 years older and his brother is twice his age. Their ages add to 45.

(a) Write expressions for his sister's and brother's ages (1)

(b) Write an equation for the total and simplify it (2)

(c) Solve it (1)

(d) How old are all three? (1)

(6 marks)

6 The perimeter of a rectangle is given by $P = 2(l + w)$.

(a) Find P when $l = 15$ and $w = 6$ (1)

(b) A rectangle has $P = 40$ and $l = 13$. Find w (2)

(c) In part (a) you *used* $P = 2(l + w)$ and in part (b) you *solved* it. The formula did not change. Write down what did. (2)

(6 marks)