Name your letters before you write anything, and **test every formula you build**.

1 A plumber charges $30{,}000$ shillings to come to a house and $18{,}000$ shillings for each hour of work.

(a) What is the charge for a job taking 1 hour? (1)

(b) What is the charge for a job taking 3 hours? (1)

(c) What would the charge be for a job taking no time at all? (1)

(d) Write a formula for the charge C for a job of h hours (2)

(5 marks)

2 A printing shop charges $5{,}000$ shillings to set up a job and 200 shillings for each page printed.

(a) Find the cost of printing 50 pages (1)

(b) Find the cost of printing 0 pages (1)

(c) Write a formula for the cost C of printing p pages (2)

(d) Test your formula on 50 pages, using your answer to (a) (2)

(5 marks)

3 A water company charges a fixed $12{,}000$ shillings a month plus 900 shillings for each unit of water used.

(a) Write a formula for the monthly bill B when u units are used (2)

(b) Find the bill for 40 units (1)

(c) Read your formula back as a sentence, without using letters (2)

(5 marks)

4 A minibus carries 14 passengers on each trip.

(a) Write a formula for the number of passengers p carried in t trips (1)

(b) How many passengers in 9 trips? (1)

(c) 182 passengers were carried. How many trips were made? (1)

(d) Check your answer to (c) in your formula (1)

(4 marks)

5 Jamie charges $24{,}000$ shillings for each hour of coaching.

(a) Write a formula for what he earns E for h hours (1)

(b) What does he earn for $2\frac{1}{2}$ hours? (1)

(c) How long must he work to earn $108{,}000$ shillings? (1)

(d) He decides to add a fixed $6{,}000$ shillings for travel. Write his new formula. (2)

(5 marks)

6 A farmer plants 8 rows of maize with the same number of plants in each row.

(a) Write a formula for the total number of plants T when there are n plants in each row (1)

(b) Find T when $n = 45$ (1)

(c) He loses 30 plants to disease. Write a formula for the number of plants left, L (2)

(d) Find L when $n = 45$ (1)

(5 marks)