None of these questions tells you what to do. Decide first, then do it.

1 Ruth says $6x - 2x$ is $4x$. Bram says it is 4.

(a) Who is right? (1)

(b) Write down a value of x that shows the other one is wrong, and what each expression comes to (2)

(c) Explain in words why the letter does not disappear (2)

(5 marks)

2 A taxi charges $2{,}000$ shillings to start, and 800 shillings for each kilometre travelled.

(a) What is the charge for a 3 km journey? (1)

(b) What is the charge for a 10 km journey? (1)

(c) Write an expression for the charge for a d km journey (1)

(d) Use your expression to find the charge for 25 km (1)

(4 marks)

3 Show that $5(x)$ is not needed, by deciding which of these three expressions are equivalent to $5x$.

$$x + x + x + x + x \qquad 5 + x \qquad \frac{10x}{2}$$

(a) Which are equivalent to $5x$? (1)

(b) For the one that is not, find a value of x where it disagrees with $5x$ (2)

(3 marks)

4 Nabirye is n years old. Her brother is three years younger.

(a) Write an expression for her brother's age (1)

(b) Write an expression for the sum of their two ages, simplified (1)

(c) If their ages add to 25, how old is Nabirye? You may find the answer by trying numbers. (1)

(4 marks)

5 **Write a story.** Invent a real situation that the expression $4n + 100$ could describe, and say clearly what n stands for.

(2 marks)

6 Simplify each expression fully.

(a) $8m + 4 - 3m - 9$ (1)

(b) $3 \times 4a - 5a$ (1)

(c) $2x + 3y - x + y$ (1)

(d) $\dfrac{12k}{3} + 2k - k$ (1)

(4 marks)

7 Two pupils were asked to write an expression for *eight more than half of* y. Achen wrote $\dfrac{y}{2} + 8$ and Bakari wrote $\dfrac{y+8}{2}$.

(a) Work out both expressions when $y = 10$ (1)

(b) Which pupil is right, and what does the other expression describe? (2)

(4 marks)