1 Kimie has x shillings in her account at the start of the year. By the end of the year she has $200{,}000$ less than four times what she started with.

(a) Write an expression for what she has at the end of the year (1)

(b) If she started with $150{,}000$, how much does she have at the end? (1)

(c) If she has $600{,}000$ at the end, how much did she start with? (1)

(4 marks)

2 Nicole and Grace share a birthday, but Grace is 5 years older.

(a) If Nicole is p years old, write an expression for Grace's age (1)

(b) If Grace is q years old, write an expression for Nicole's age (1)

(c) Write an expression for the sum of their two ages when Nicole is p (1)

(3 marks)

3 Describe a situation that each formula could be about. Say what each letter stands for.

(a) $C = 700n$ (2)

(b) $C = 1200n + 5000$ (2)

(c) $m = 60h$ (2)

(7 marks)

4 A farmer has g goats. He has three times as many chickens as goats, and 12 fewer cows than goats.

(a) Write an expression for the number of chickens (1)

(b) Write an expression for the number of cows (1)

(c) Write a simplified expression for the total number of animals (1)

(d) If $g = 20$, how many animals are there altogether? (1)

(5 marks)

5 Two beakers are shown. The first holds 50 ml of water, and the second holds more. If the amount in the first is x, which of these could describe the second: $4x + 10$, $3x + 60$, $5x - 40$?

(a) Work out all three when $x = 50$ (2)

(b) What do you notice about your three answers? (2)

(c) Write another expression, different from all three, that also gives the same answer when $x = 50$ (2)

(5 marks)

6 Write a story. Invent a situation for the expression $\dfrac{y-5}{4}$. Say what y counts, what the 5 is, and what the 4 is.

(3 marks)