1 Solve each equation.

(a) $7(x+3)=56$ (1)

(b) $3(2y-5)=21$ (1)

(c) $4(3n+2)=44$ (1)

(d) $5(2m-3)=35$ (1)

(4 marks)

2 Mr Wong sold 18 more cakes in May than in June. Altogether he sold 150 cakes.

(a) Let j be the number sold in June. Write an expression for the number sold in May (1)

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

(c) Solve your equation (1)

(d) How many cakes were sold in each month? (1)

(6 marks)

3 Three consecutive numbers add up to 48.

(a) If the smallest is n, write expressions for the other two (1)

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

(c) Solve it and write down the three numbers (2)

(d) Check your answer without using any algebra (1)

(6 marks)

4 Ayesha is y years old. Her brother is 4 years older and her sister is twice her age. Their three ages add up to 40.

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

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

(c) Solve it to find Ayesha's age (1)

(d) How old are all three of them? (2)

(6 marks)

5 A rectangle is 3 cm longer than it is wide, and its perimeter is 38 cm.

(a) If the width is w, write an expression for the length (1)

(b) Write an equation for the perimeter using $P=2(l+w)$ (2)

(c) Simplify and solve it (2)

(d) Write down the length and the width (1)

(7 marks)

6 Look at the equation $2(x+3)=2x+5$.

(a) Expand the left-hand side (1)

(b) Write down what the equation now says (1)

(c) Try $x=1$ and $x=10$. Does either one work? (2)

(d) Explain why no value of x will ever work (2)

(6 marks)

7 **Extension.** Write an equation of your own, with a bracket in it, whose solution is $x=5$, for each of the following.

(a) One where dividing both sides first is the quicker route (2)

(b) One where expanding first is the quicker route (2)

(4 marks)