

## **Solving linear equations and inequations**

1. Solve these equations:

(a)  $x + 5 = 3$

(b)  $y - 4 = 1$

(c)  $z + 3 = -2$

[1, 1, 1]

2. Solve these equations:

(a)  $5x = 20$

(b)  $3z = 15$

(c)  $2y = 1$

[1, 1, 1]

3. Solve these equations:

(a)  $2x - 12 = -3$

(b)  $5z + 9 = 4$

(c)  $6y - 9 = 2y + 5$

(d)  $8k - 5 = 5k + 1$

(e)  $6(a - 1) = 4(a + 2)$

(f)  $6x + 11 = 9x + 2$

[2, 2, 2, 2, 3, 2]

4. Solve these equations:

(a)  $7x + 7 = 5x - 11$

(b)  $3x + 13 = 9 - 5x$

(c)  $4x - 8 = 6x - 14$

[2, 2, 2]

5. Solve these inequalities:

(a)  $7x > 42$

(b)  $5x - 3 \leq 22$

(c)  $3x - 2 > -11$

[1, 2, 2]

**[30 marks]**

### Changing the subject of a formula

1. Change the subject of each formula to  $x$ .

(a)  $y = x - 3$

(b)  $y = x + b$

(c)  $y = 3x$

(d)  $y = 3p + x$

[1, 1, 1, 1]

2. Make  $a$  the subject of each formula.

(a)  $c = 7 + a$

(b)  $g = a - 2x$

[1, 1]

3. Change the subject of the formula to  $x$ .

(a)  $y = ax + b$

(b)  $k = h - mx$

[2, 2]

4. Change the subject of each formula to the letter shown in brackets.

(a)  $P = 6l$

(l)

(b)  $V = IR$

(I)

(c)  $P = 2w + 2b$

(b)

[1, 1, 2]

5. Change the subject of each formula to  $y$ .

(a)  $v = \frac{1}{2}y$

(b)  $c = \frac{1}{5}y$

[1, 1]

6. Make  $x$  the subject of each formula.

(a)  $a = \frac{7}{x}$

(b)  $m = \frac{y}{x}$

(c)  $p = \frac{3}{x} - 2$

[2, 2, 3]

**[23 marks]**