

TERM

**3**

# Test 2 Memorandum

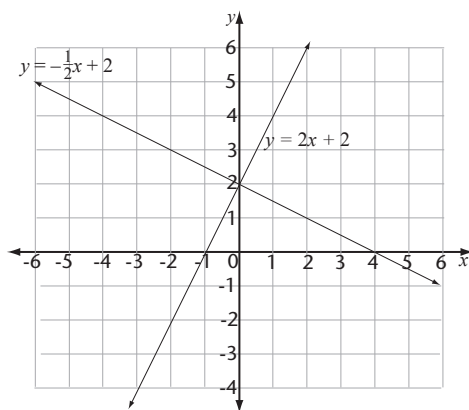
- 1 a  $n(m - n + q)$   
 c  $mx - nx + 3m - 3n = (m - n)(x - 3)$   
 e  $(x + 3)(x - 3)$   
 g  $(5x - 4y)(5x + 4y)$   
 i  $(x + 2)(x + 1)$
- 2 a  $x = -13$   
 d  $x = -\frac{5}{13}$   
 g  $x^2 = \pm\sqrt{14}$
- b  $x = 7$   
 e  $x = \frac{48}{13}$   
 h  $x = 3$  or  $x = -7$
- b  $3x^2 + 6 = 3(x^2 + 2)$   
 d  $(a - 2b)(3 + a)$   
 f  $2(1 - 2b)(1 + 2b)$   
 h  $-1$   
 j  $(x + 4)(x - 7)$   
 c  $x = 2$   
 f  $x = 0$  or  $x = 5$

- 3 a  $y = 2x + 2$

|     |    |    |   |   |   |
|-----|----|----|---|---|---|
| $x$ | -2 | -1 | 0 | 1 | 2 |
| $y$ | -2 | 0  | 2 | 4 | 6 |

- b  $y = -\frac{1}{2}x + 2$

|     |    |                |   |                |   |
|-----|----|----------------|---|----------------|---|
| $x$ | -2 | -1             | 0 | 1              | 2 |
| $y$ | 3  | $2\frac{1}{2}$ | 2 | $1\frac{1}{2}$ | 1 |



- 4 a i  $x$ -intercept is  $(-1; 0)$ ;  $y$ -intercept is  $(-1; 0)$   
 ii  $x$ -intercept is  $(4; 0)$ ;  $y$ -intercept is  $(0; 2)$
- b i Gradient = 2  
 ii Gradient =  $-\frac{1}{2}$
- c i increasing  
 ii decreasing
- 5 a  $y = -\frac{1}{2}x$   
 b A:  $y = \frac{1}{2}x + 5$ ; B:  $y = -x + 5$   
 c C:  $y = -x$ ; D:  $y = 6$ ; E:  $x = 3$
- 6 a  $2\pi r^3$   
 b  $6\pi r^2$   
 c  $150\pi \text{ cm}^3$