



TERM

3

Test 2

1 Factorise the following expressions.

- a $mn - pn + qn$
- c $mx - nx + 3m - 3n$
- e $x^2 - 9$
- g $25x^2 - 16y^2$
- i $x^2 + 3x + 2$

- b $3x^2 + 6$
- d $3(a - 2b) - a(2b - a)$
- f $2 - 8b^2$
- h $\frac{-3(x + a)}{3x + 3a}$
- j $x^2 - 3x - 28$

2 Solve these equations.

- a $3x + 6 = -33$
- c $3(2x + 5) = 27$
- e $(x - 3)(x + 4) = (x - 6)(x - 6)$
- g $x^2 - 14 = 0$

- b $3,8x = 26,6$
- d $\frac{1}{3}(2x + 1) + \frac{1}{2}(3x + 1) = 0$
- f $x^2 - 5x = 0$
- h $x^2 + 4x - 21 = 0$

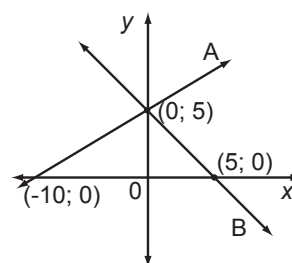
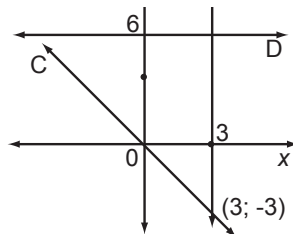
3 Draw the graphs of the following on the same system of axes, using the table method.

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

4 For each of the graphs drawn in question 3, give the following:

- a the intercepts with the axes
- b the gradient
- c Is it increasing or decreasing?

5 Find the equations of the following graphs.



- a The line parallel to the line in question 3b that goes through the origin.
- b lines A and B
- c lines C, D and E
- 6 The height of a cylinder is the same as its diameter.
 - a Express its volume in terms of its radius.
 - b Express its surface area in terms of its radius.
 - c If its radius is 5 cm, calculate the surface area and the volume of the cylinder.

