Exam-style questions

1 a Write the equation for each of the graphs A, B, C and D.
  b Write down the co-ordinates of the intersection of:
    i A and B
    ii C and D

  c What co-ordinates satisfy the equations of B and D at the same time?
  d Which graph has an x-intercept of $-\frac{1}{2}$?
 **e** Which graph is symmetrical about the y-axis?
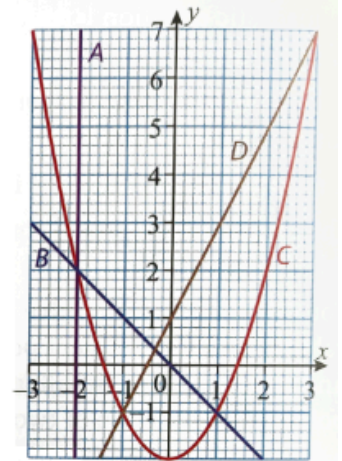
2 The graph of $y = x^2$ is drawn on the grid.

  a The table shows some corresponding values of $y = x^2 + 3$. Copy and complete the table by filling in the missing values.

x	−2	−1.5	−1	−0.5	0	0.5	1	1.5	2
y		5.25	4	3.25	3		4	5.25	7

  b Plot the graph of $y = x^2$ and the graph of $y = x^2 + 3$ for $-2 \leqslant x \leqslant 2$ on a grid.
  c Will the two curves ever meet? Explain your answer.
  d By drawing a suitable straight line on the same grid, solve the equations:
    i $x^2 = 6$
    ii $x^2 + 3 = 6$
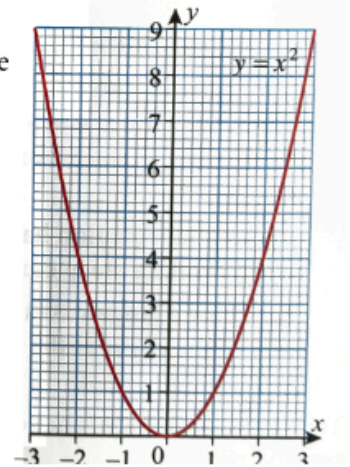
3 Look at these sketch graphs. For each one, write the general form of its equation. Use letters to represent any constant values if you need to.

a

$(-4, 4)$

b

-7

c

d

$(-1, 1)$

e

4