Ex 14 Quadratic Functions
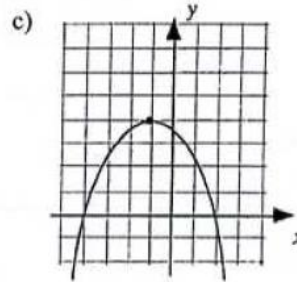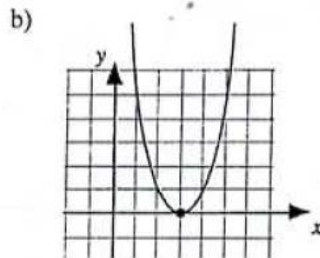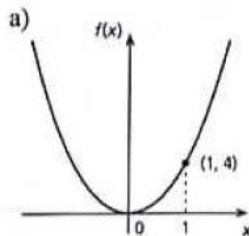
1. Write down the equation representing each parabola.
(Each one is in the form $y = kx^2$ or $y = (x+a)^2 + b$)

a)

(1, 4)

b)

c)

2. Solve the quadratic equation, $x^2 - 4x + 3 = 0$, by
    (i) completing the table.
    (ii) plotting the points and drawing the smooth parabola
    (iii) reading off the roots from the graph.

x	-1	0	1	2	3	4	5
$y = x^2 - 4x + 3$							

3. Solve the following quadratic equations by factorising:-

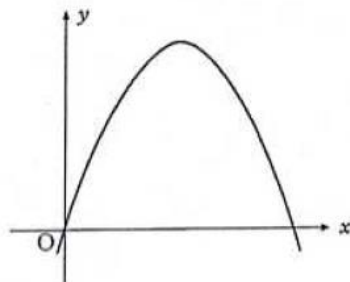a) $4x^2 - 36 = 0$ b) $x^2 + 8x + 12 = 0$ c) $2x^2 - 11x + 12 = 0$

4. Solve the following quadratic equation using the formula, correct to 2 decimal places:-

a) $3a^2 - 12a + 11 = 0$

5. The graph below is part of the parabola with equation $y = 8x - x^2$

a) by factorising $8x - x^2$, find the roots of the equation $8x - x^2 = 0$

b) State the equation of the axis of symmetry of the parabola.

c) Find the coordinates of the turning point.