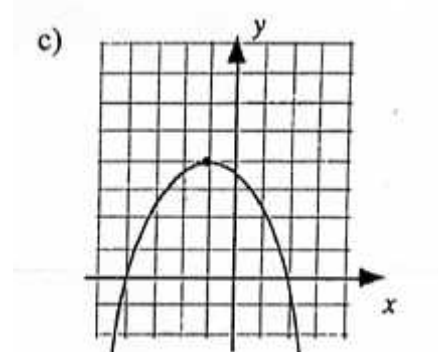
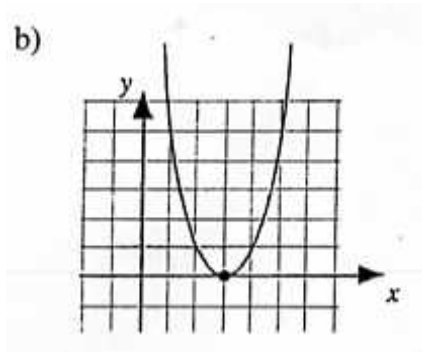
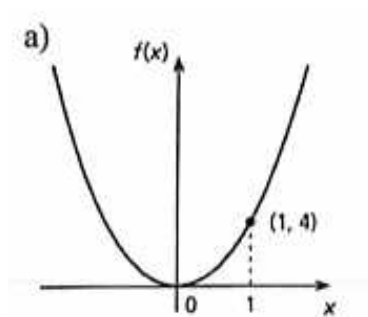


## National 5 Homework : 1 year course

### Graphs of Quadratic Functions

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



2. Sketch the graph of the following quadratic functions showing where it cuts both the x and the y axis and also the coordinates of the turning point.

(a)  $y = (x + 4)(x - 2)$

(b)  $y = x^2 + 6x - 16$

3. Sketch the graph of the following quadratic functions showing where it cuts the y axis and also the coordinates of the turning point.

(a)  $y = 10 - (x + 2)^2$

(b)  $y = x^2 + 10x - 4$  \*Hint: complete the square first

4. For each of the quadratic functions write down:-  
(i) The coordinates of the turning point and its nature  
(ii) The equation of the axis of symmetry.

(a)  $y = (x + 6)^2 - 4$

(b)  $y = 12 - (x - 3)^2$