Master Maths 9 Worksheet 38
Parabolas 2

38

Name: _____

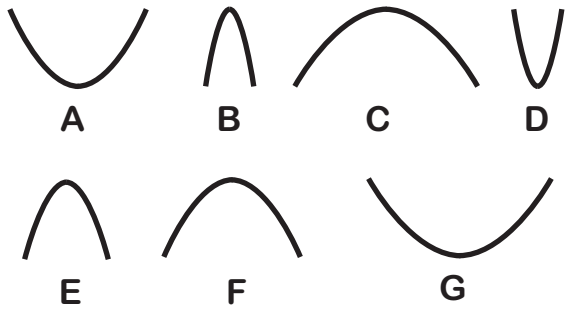
1. The curve shown here is $y = x^2$.

Compare this curve to the curves below and match them with the following equations.

$y = 2x^2$ ☐ $y = \frac{1}{2}x^2$ ☐ $y = -x^2$ ☐

$y = \frac{1}{3}x^2$ ☐ $y = -\frac{1}{2}x^2$ ☐ $y = -2x^2$ ☐

$y = -\frac{1}{3}x^2$ ☐



2. For the parabolas below state whether each would have a ***minimum*** or ***maximum*** turning point and whether they would be ***thinner*** or ***flatter*** than the graph of $y = x^2$.

Equation	***Minimum*** or ***Maximum*** Turning Point	***Thinner*** or ***Flatter*** Than $y = x^2$
$y = 3x^2$		
$y = -2x^2 + 3$		
$y = \frac{1}{4}x^2 - 4$		
$y = 5x^2 + \frac{1}{2}$		
$y = -\frac{2}{3}x^2$		
$y = 3 - 4x^2$		
$y = 2 + \frac{3}{7}x^2$		

3. Sketch the following parabolas clearly showing all known points.

(a) This parabola has x-intercepts of -1 and 4 and its y-intercept at 1.

(b) This parabola has its axis of symmetry at $x = 2$, one x-intercept at 5 and its y-intercept at -2.

(c) This parabola has its turning point at (-1,3) and its y-intercept at 1.

(d) This parabola has x-intercepts at 0 and 5, and it passes through the point (-1,2).