Name: _____

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1. State which of the following are quadratic equations.

A $y = 3x^2 + 5$ **B** $m = 2n - 5$
C $b = 7 - 2a^3$ **D** $p = 8 + q^2$
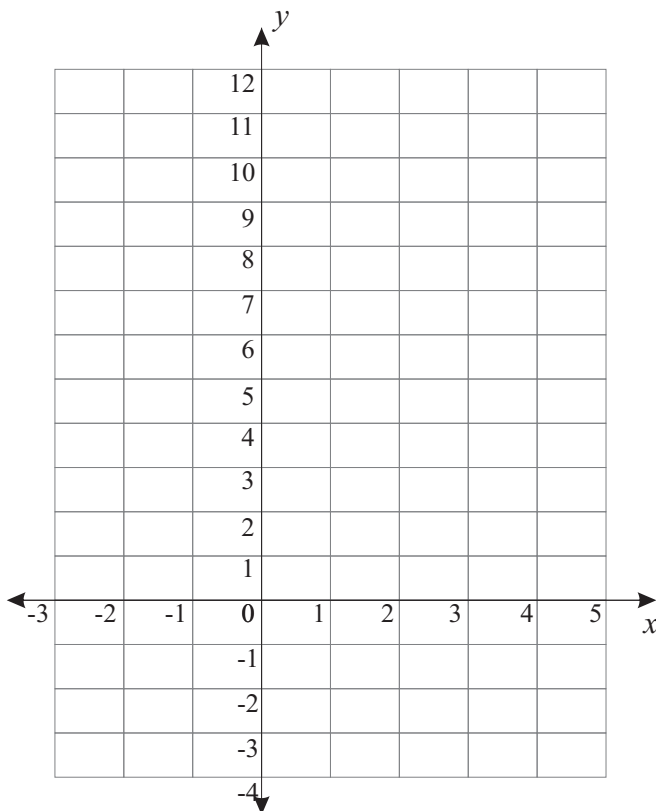**E** $y = x^3 + 2x^2 - 1$ **F** $d = 2c^2 + 7c - 5$

2. (a) Complete the table of values below for the following equation.

$$y = x^2 - 2x - 3$$

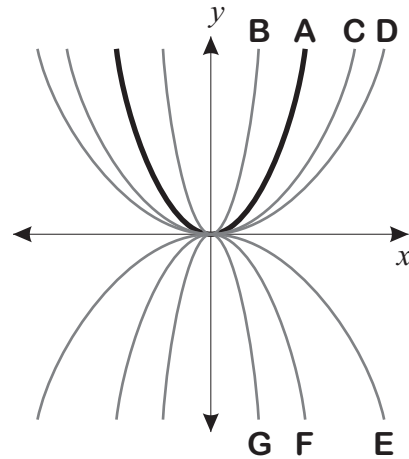| x	-3	-2	-1	0	1	2	3	4	5
y									

(b) Plot these points on the graph below and connect them with a smooth curve.

(c) What are the coordinates of the turning point?

(d) Is this a maximum (*MAX*) or minimum (*MIN*) turning point?

3. Parabola **A** below has the equation $y = x^2$.

Match the other labelled parabolas with the following equations.

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

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

4. Which of the parabolas in question 3 have *maximum* turning points?

5. If the equations of the parabolas below were graphed:
(a) which would be *flatter* than the graph of $y = x^2$?

(b) which would have *maximum* turning points?

A $y = 2x^2 + 3$ **B** $y = -5x^2 + 4x - 3$
C $y = \frac{1}{3}x^2 - 6x + 7$ **D** $y = 9x - 2x^2$
E $y = -\frac{1}{2}x^2 + 4x$ **F** $y = 8 + \frac{2}{5}x^2$
G $y = 1 - \frac{3}{4}x^2$ **H** $y = -3x + \frac{7}{9}x^2$
I $y = \frac{7}{3}x^2 + x$ **J** $y = 4 - 3x^2 + 7x$