Math II Name_____ ID: 1

Discriminant Practice

Date_____ Period____

Use the discriminant to determine the number of real solutions to each equation.

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

2) $3k^2 + 6k + 3 = 0$

3) $-4x^2 - x + 5 = 0$

4) $-4m^2 + 4m - 5 = 0$

5) $3m^2 - 6m + 3 = 0$

6) $-2a^2 - 6a + 3 = 0$

REASONING **Give a value of c for which the equation has (a) two solutions, (b) one solution, and (c) no solution.**

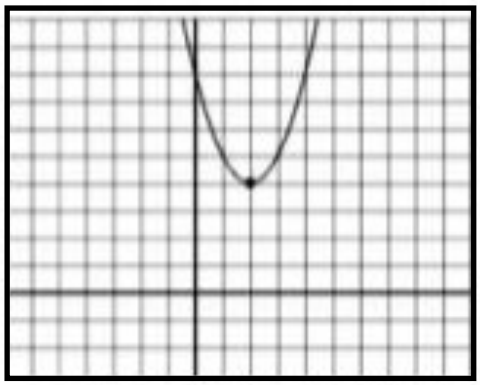
$x^2 - 2x + c = 0$ $x^2 - 8x + c = 0$ $4x^2 + 12x + c = 0$

USING THE DISCRIMINANT **Tell whether the vertex of the graph of the function lies above, below, or on the x-axis. *Explain* your reasoning.**

$y = x^2 - 3x + 2$ $y = 3x^2 - 6x + 3$ $y = 6x^2 - 2x + 4$

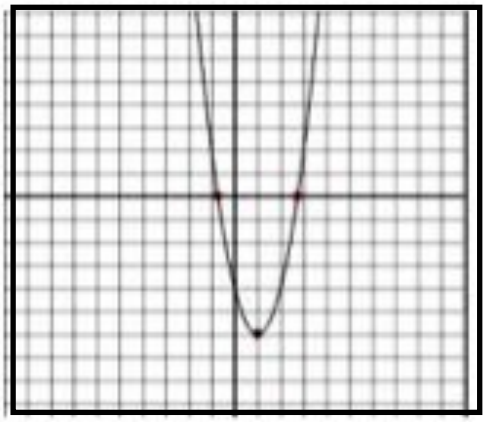
$y = -15x^2 + 10x - 25$ $y = -3x^2 - 4x + 8$ $y = 9x^2 - 24x + 16$

Given the graph below determine a) the sign of the discriminant b) the number of roots.

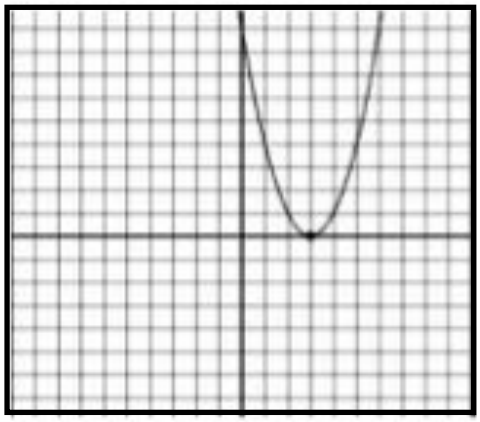


a) _____
b) _____

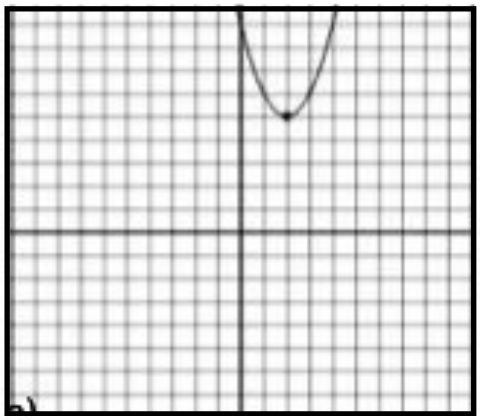
a) _____
b) _____



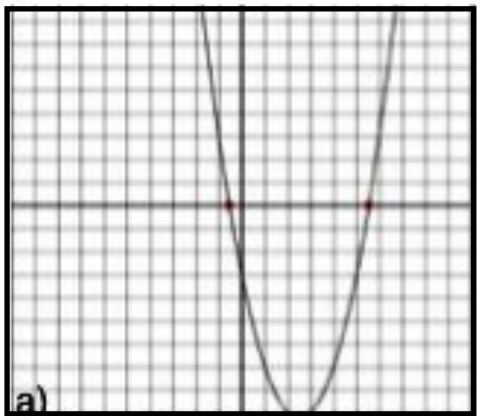
a) _____
b) _____



a) _____
b) _____



a) _____
b) _____



a) _____
b) _____