

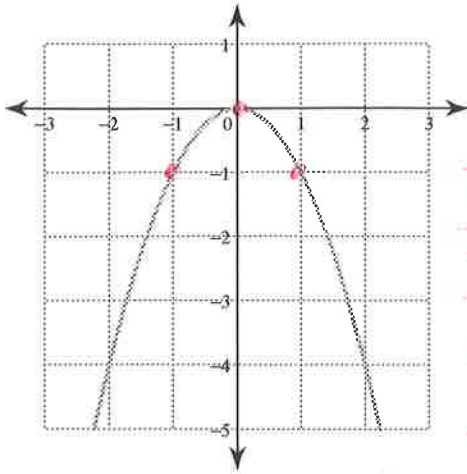
Name Kelly

Date \_\_\_\_\_ Period \_\_\_\_\_

## Graphing Quadratic Functions

Sketch the graph of each function.

1)  $y = -x^2$

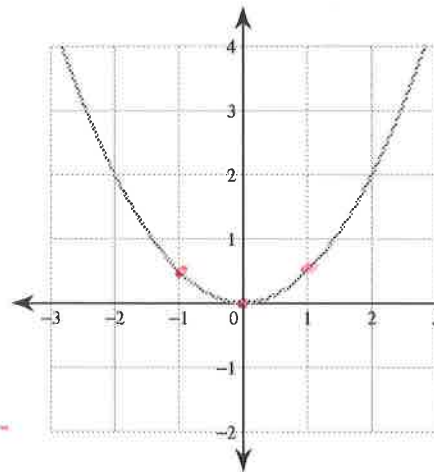


| x  | y  |
|----|----|
| -2 | -4 |
| -1 | -1 |
| 0  | 0  |
| 1  | -1 |
| 2  | -4 |

Vertex (0,0)  
axis of sym  $x=0$

Sol  $\rightarrow x=0$

2)  $y = \frac{1}{2}x^2$



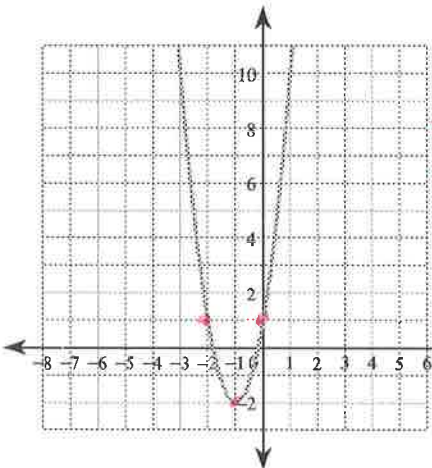
| x  | y   |
|----|-----|
| -2 | 2   |
| -1 | 0.5 |
| 0  | 0   |
| 1  | 0.5 |
| 2  | 2   |

(0,0)

$x=0$

Sol  $\rightarrow x=0$

3)  $y = 3x^2 + 6x + 1$



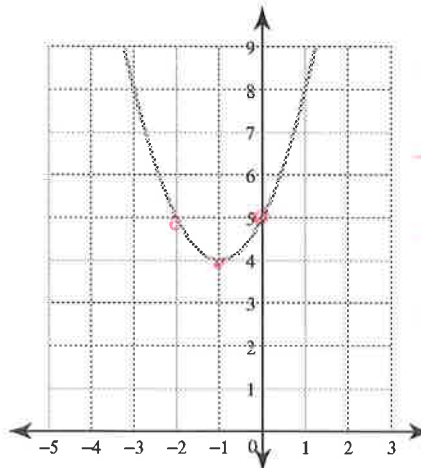
| x  | y  |
|----|----|
| -3 | 10 |
| -2 | 1  |
| -1 | -2 |
| 0  | 1  |
| 1  | 10 |

V (-1, -2)

a of S  $x=-1$

Sol  $\rightarrow x \approx -1.75$   
 $x \approx -0.25$

4)  $y = x^2 + 2x + 5$



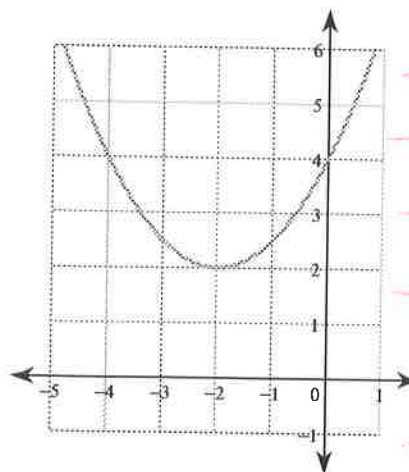
| x  | y |
|----|---|
| -3 | 8 |
| -2 | 5 |
| -1 | 4 |
| 0  | 5 |
| 1  | 8 |

V (-1, 4)

a of S  $x=-1$

Sol  $\rightarrow$  no real solution

5)  $y = \frac{1}{2}x^2 + 2x + 4$

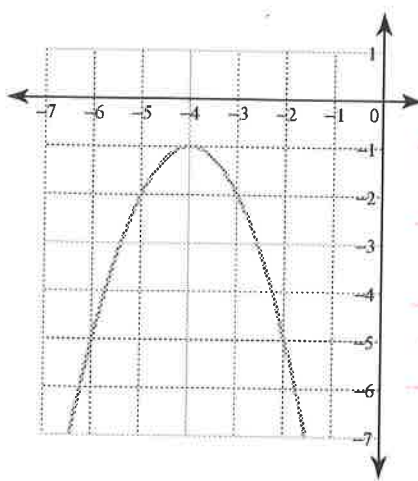


| x  | y   |
|----|-----|
| -4 | 4   |
| -3 | 2.5 |
| -2 | 2   |
| -1 | 2.5 |
| 0  | 4   |

V (-2, 2)

n of s.  $x = -2$

6)  $y = -x^2 - 8x - 17$



| x  | y  |
|----|----|
| -6 | -5 |
| -5 | -2 |
| -4 | -1 |
| -3 | -2 |
| -2 | -5 |

(-4, -1)

$x = -4$

... solution