SATPREP Name_____

Assignment:Completing Square

Date_____

Use the information provided to write the vertex form equation of each parabola.

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

2) $y = 2x^2 - 8x + 13$

3) $y = x^2 + 1$

4) $y = -\frac{1}{3}x^2 + \frac{10}{3}x - \frac{52}{3}$

Identify the vertex and axis of symmetry of each.

5) $y = \frac{1}{2}x^2 - 7x + \frac{41}{2}$

6) $y = x^2 + 16x + 69$

Identify the vertex, axis of symmetry, and x-intercepts of each.

7) $y = x^2 - 9x + 8$

8) $y = -3x^2 - 54x - 244$

Identify the vertex, axis of symmetry, y-intercept, and x-intercepts of each.

9) $y = -\frac{1}{4}x^2 - 1$

10) $y = -8x^2 - 88x - 240$

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Use the information provided to write the vertex form equation of each parabola.

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

$y = -(x - 1)^2 - 2$

2) $y = 2x^2 - 8x + 13$

$y = 2(x - 2)^2 + 5$

3) $y = x^2 + 1$

$y = x^2 + 1$

4) $y = -\frac{1}{3}x^2 + \frac{10}{3}x - \frac{52}{3}$

$y = -\frac{1}{3}(x - 5)^2 - 9$

Identify the vertex and axis of symmetry of each.

5) $y = \frac{1}{2}x^2 - 7x + \frac{41}{2}$

Vertex: $(7, -4)$
Axis of Sym.: $x = 7$

6) $y = x^2 + 16x + 69$

Vertex: $(-8, 5)$
Axis of Sym.: $x = -8$

Identify the vertex, axis of symmetry, and x-intercepts of each.

7) $y = x^2 - 9x + 8$

Vertex: $\left(\frac{9}{2}, -\frac{49}{4}\right)$
Axis of Sym.: $x = \frac{9}{2}$
x-int: 8 and 1

8) $y = -3x^2 - 54x - 244$

Vertex: $(-9, -1)$
Axis of Sym.: $x = -9$
x-int: None

Identify the vertex, axis of symmetry, y-intercept, and x-intercepts of each.

9) $y = -\frac{1}{4}x^2 - 1$

Vertex: $(0, -1)$
Axis of Sym.: $x = 0$
y-int: -1
x-int: None

10) $y = -8x^2 - 88x - 240$

Vertex: $\left(-\frac{11}{2}, 2\right)$
Axis of Sym.: $x = -\frac{11}{2}$
y-int: -240
x-int: -6 and -5