Algebra 2

Name_____ ID:

Completing the Square

Date_____ Period___

Write the following functions in vertex form.

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

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

3) $y = x^2 - 8x + 19$

4) $y = x^2 - 4x$

5) $y = x^2 - 7x + 11$

6) $y = x^2 + 7x + 16$

7) $y = x^2 + 9x + 24$

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

9) $y = -x^2 + 8x - 12$

10) $y = 3x^2 + 18x + 23$

11) $y = 2x^2 + 4x - 1$

12) $y = -2x^2 + 16x - 29$

13) $y = -2x^2 + 6x - 6$

14) $y = 2x^2 + 18x + 44$

Algebra 2

Name *key ID:

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Completing the Square

Sketch the graph of each function.

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

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

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

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

3) $y = x^2 - 8x + 19$

$y = (x-4)^2 + 3$

4) $y = x^2 - 4x$

$y = (x-2)^2 - 4$

5) $y = x^2 - 7x + 11$

$y = (x - \frac{7}{2})^2 - \frac{5}{4}$

6) $y = x^2 + 7x + 16$

$y = (x + \frac{7}{2})^2 + \frac{15}{4}$

7) $y = x^2 + 9x + 24$

$y = (x + \frac{9}{2})^2 + \frac{15}{4}$

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

$y = (x - \frac{7}{2})^2 - \frac{13}{4}$

9) $y = -x^2 + 8x - 12$

$y = -(x-4)^2 + 4$

10) $y = 3x^2 + 18x + 23$

$y = 3(x+3)^2 - 4$

11) $y = 2x^2 + 4x - 1$

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

12) $y = -2x^2 + 16x - 29$

$y = -2(x-4)^2 + 3$

13) $y = -2x^2 + 6x - 6$

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

14) $y = 2x^2 + 18x + 44$

$y = 2(x + \frac{9}{2})^2 + \frac{7}{2}$