AAG

Name _____ ID: 1

Converting Forms Practice

Date _____ Period ____

Rewrite into vertex form

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

$8 + y - 6 = 2(x^2 + 4x + 4)$

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

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

2) $y = -x^2 + 6x - 11$

$-9 + y + 11 = -(x^2 - 6x + 9)$

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

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

3) $y = -x^2 + 8x - 20$

$-16 + y + 20 = -(x^2 - 8x + 16)$

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

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

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

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

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

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

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

$-2 + y + 5 = -1/2(x^2 + 4x + 4)$

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

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

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

$32 + y - 29 = 2(x^2 - 8x + 16)$

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

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

7) $y = 2x^2 + 10x + 13$

$\frac{50}{4} + y - 13 = 2(x^2 + 5x + \frac{25}{4})$

$y - 1/2 = 2(x + 5/2)^2$

$y = 2(x + 5/2)^2 + 1/2$

8) $y = -x^2 - 5x - 9$

$-\frac{25}{4} + y + 9 = -(x^2 + 5x + \frac{25}{4})$

$y + \frac{11}{4} = -(x + 5/2)^2$

$y = -(x + 5/2)^2 - 11/4$

9) $y = 3x^2 + 9x + 7$

$\frac{27}{4} + y - 7 = 3(x^2 + 3x + \frac{9}{4})$

$y - 1/4 = 3(x + 3/2)^2$

$y = 3(x + 3/2)^2 + 1/4$

10) $y = 3x^2 - 21x + 40$

$\frac{147}{4} + y - 40 = 3(x^2 - 7x + \frac{49}{4})$

$y - 13/4 = 3(x - 7/2)^2$

$y = 3(x - 7/2)^2 + 13/4$

Rewrite into Standard Form

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

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

$-y = x^2 - 2x$

$y = -x^2 + 2x$

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

$1/3y - 1 = x^2 - 6x + 9$

$1/3y = x^2 - 6x + 10$

$y = 3x^2 - 18x + 30$

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

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

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

$y = -x^2 - 4x - 1$

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

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

$y + 3 = 2(x^2 - 8x + 16)$

$y + 3 = 2x^2 - 16x + 32$

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

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

$y = -(x^2 + 6x + 9) - 1$

$y = -x^2 - 6x - 9 - 1$

$y = -x^2 - 6x - 10$

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

$y = 2(x^2 + 6x + 9) - 4$

$y = 2x^2 + 12x + 18 - 4$

$y = 2x^2 + 12x + 14$

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

$y = -2(x^2 - 6x + 9) + 4$

$y = -2x^2 + 12x - 18 + 4$

$y = -2x^2 + 12x - 14$

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

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

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