SM2 Unit 6 Extra Practice Name_____ ID: 1

Date_____ Period____

6.1 & 6.2- Solve each equation by completing the square.

1) $n^2 + 20n - 32 = 2$

2) $6x^2 + 12x - 10 = 8$

3) $b^2 + 12b - 100 = -4$

4) $5n^2 - 20n + 19 = 4$

5) $4b^2 + 16b - 9 = 3$

6) $n^2 - 14n + 34 = 10$

7) $9m^2 + 18m - 94 = -3$

8) $n^2 - 12n = 10$

9) $b^2 - 20b + 85 = 10$

10) $n^2 + 4n - 20 = -8$

6.3- Solve each equation with the quadratic formula.

11) $6x^2 + 7x = -3$

12) $10r^2 - 4 = 11r$

13) $5r^2 - 21 = 8r$

14) $9k^2 = 15 - 11k$

15) $10m^2 - 7 = 0$

16) $v^2 - 121 = 0$

17) $a^2 - 9a = -8$

18) $10r^2 = 17 + 4r$

19) $9a^2 = 14$

20) $a^2 = 100$

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

21) $y = x^2 + 12x + 45$

22) $x = \frac{1}{2}y^2 + 8y + 38$

23) $y = 7x^2 - 14x - 3$

24) $x = 12y^2 - 168y + 589$

25) $y = 4x^2 + 56x + 206$

26) $y = 2x^2 + 32x + 126$

6.5- Use the information provided to write the standard form equation of each circle.

27) $x^2 + y^2 - 20x + 36 = 0$

28) $x^2 + y^2 + 16x - 26y + 197 = 0$

29) $x^2 + y^2 + 28x + 12y + 223 = 0$

30) $x^2 + y^2 - 24y + 128 = 0$

31) $x^2 + y^2 + 28x - 20y + 280 = 0$

32) $x^2 + y^2 - 12x - 18y + 81 = 0$

33) $x^2 + y^2 + 20x + 84 = 0$

34) $x^2 + y^2 + 14x + 24y + 168 = 0$

35) $x^2 + y^2 + 16x - 26y + 208 = 0$

36) $x^2 + y^2 + 28x - 12y + 223 = 0$