Name: _____

Solving Equations by Factoring

Exercise 1: Solve using the zero product rule:

1) $(x - 4)(x + 1)=0$

2) $(x - 1)(x^2 + 1)=0$

3) $(x + 2)(x - 2)=0$

4) $(x - 3)(x + 5) =0$

5) $(x + 2)(x - 6) =0$

6) $(x - 7)(x - 3) =0$

Exercise 2: Solve each equation and check for if the solutions are accepted.

1) $3w^2 - 9w = 0$

2) $2x^2 - 8x + 8 = 0$

3) $15 = x^2 - 2x$

4) $3b^2 - 12b - 15 = 0$

5) $2v^2 - 17v = 0$

6) $x^2 - 2x + 5 = 0$

7) $x^2 - 10x + 21 = 0$

8) $2a^2 - 70 = 4a$

9) $p^2 - 11p + 24 = 0$

10) $m^2 - m - 12 = 0$

11) $n^2 + 9n + 18 = 0$

12) $x^2 + 10x + 16 = 0$

Exercise 3: Solve the following quadratics by factoring. **First,** rewrite the equations *in factored form* and then give the solutions to the equations. Remember that the equation must be ***set equal to zero*** before factoring.

1) $x^2 + 4x - 21 = 0$

2) $x^2 - 5x - 14 = 0$

3) $x^2 + 5x + 6 = 0$

4) $x^2 - 2x - 27 = 3$

5) $x^2 + 9x - 36 = 0$

6) $x^2 - 11x + 28 = -2$

7) $x^2 + 7x - 60 = 0$

8) $x^2 + 6x + 9 = 0$

9) $x^2 - 64 = 0$

10) $3x^2 - 27 = 0$