

Name _____

Date _____

Ms. Schmidt

Pre-Calculus

Solving Quadratics by Factoring and the Square Root Principle

Identify 3 types of factoring.

1) _____

2) _____

3) _____

Solving Quadratics by Factoring Steps:

1)

2)

3)

4)

5)

6)

7)

Ex1: $4x^2 - 9 = 0$

Ex2: $2x^2 - 10x = 0$

Ex3: $x^2 - 4x = 12$

Ex3: $18 + 2x^2 = -15x$

Solve by using the Square Root Principle

1)

2)

3)

4)

5)

6)

Ex1: $x^2 = 13$

Ex2: $4x^2 = 25$

Ex3: $(3x + 5)^2 = 14$

Ex4: $(x + 3)^2 = (x + 13)^2$

Practice: Solve each of the following:

1) $169x^2 - 36 = 0$

3) $x^2 - 9 = 0$

2) $25r^2 - 1 = 0$

4) $9a^2 - 441 = 0$

$$5) 42n^3 - 330n^2 - 432n = 0$$

$$10) 35v^2 + 15v = 0$$

$$6) 25v^2 + 80v = -60$$

$$11) 2n^2 = -144$$

$$7) 3b^2 - 11b = -6$$

$$12) x^2 + 8 = 28$$

$$8) 28mn - 49m - 12xn + 21x = 0$$

$$13) -6m^2 = -486$$

$$9) 15n^3 - 24n^2 + 40n - 64 = 0$$

$$14) 7v^2 + 1 = 29$$

$$15) 25p^2 + 150 = -155p$$

$$20) (x + 5)^2 = (x + 10)^2$$

$$16) x^2 + 2x = 8$$

$$21) n^2 = 7n = 0$$

$$17) 10n^2 + 2 = 292$$

$$22) x^2 = -11x - 28$$

$$18) (2k - 1)^2 = 9$$

$$23) 10x^3 - 47x^2 + 42x = 0$$

$$19) 9(2m - 3)^2 + 8 = 449$$

$$24) 28n^2 - 60 = 128n$$