MTH 95 Lesson 3 - Special Polynomials and Factoring Strategies Name: _____

1. Factor the following Differences of Squares.

   a. $x^2 - 49$

   b. $m^2n^2 - 4$

   c. $4z^2 - 9$

   d. $x^2 - 16$

   e. $3y^4 - 75$

   f. $5y^4 - 80$

2. Factor the following Perfect Square Trinomials.

   a. $x^2 + 6x + 9$

   b. $4x^2 - 20xy + 25y^2$

c. $16q^2 + 56q + 49$

d. $x^2 + 20x + 100$

e. $4y^2 - 20y + 25$

f. $36r^2 + 12r + 1$

g. $81t^2 - 18t + 1$

h. $20x^2 + 20x + 5$

i. $90r^{10} - 60r^9 + 10r^8$

j. $16x^8 - 8x^7 + x^6$

3. Factor the following polynomials completely using any factoring methods necessary.

a. $-3y - 3$

b. $8xy + 8y$

c. $5y^2 - 2y - 7$

d. $8t^2 + 22t + 15$

e. $4y^2 + 3yt - 7t^2$

f. $15t^2 - 3t - 12$

g. $x^4 - 121$

h. $x^6 - 36y^{14}$

i. $3x^2r^3 - 147r$

j. $x^2 - 12xy + 36y^2$

k. $4r^{10} + 4r^9 + r^8$

l. $2x^4 - 162$

m. $x^2 - 14x + 49 - 64y^2$

n. $y^{12} - 49$

o. $2x^2y^3 - 10xy^2 + 8y$

p. $30r^4 - 12r^3 + 42r^2$