LESSON PLAN

Course: Grade 12 U Advanced Functions **Lesson : 1 - 11**

Unit/Chapter: Polynomial Skills **Topic: Unit Assignment**

- ***homework check:*** **FM12** p. 43 exercise 1.16 # 1, 3, 4
- ***unit assignment:*** **handout copies of Unit One Assignment**

Unit One – Polynomial Skills

Knowledge	**36**	
Application	**31**	
Communication		

PART 1: Knowledge

1. Expand and Simplify.

a) $-2-3(2x+1)^2 =$

(2)

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

(4)

c) $(3x^2+2x-5)(2x^2-x+3) =$

(3)

2. Factor.

a) $-10x^3y^5 - 25x^4y^4 + 15x^5y^3 =$

(3)

b) $3x(c-d) - 2y(c^2 - d^2) =$

(3)

c) $49x^2 - 16y^2 =$

(2)

d) $4x^2 - 11x - 3 =$

(2)

e) $4x^2 - 12x + 9 =$

(3)

f) $8x^3 - 27y^3 =$

(3)

g) $64a^6 + 343b^{12} =$

(3)

3. **Divide by using long division. Clearly indicate your remainder.**

a) $\left(3x^4 - 12x^3 - 22x^2 + 24x - 5\right) \div \left(x + 2\right)$

(4)

b) $\left(9x^3 - 80x - 3\right) \div \left(x - 3\right)$

(4)

PART B: Application

1. Use synthetic division to divide. State the factors in a concluding statement.

a) $\left(x^4 - 3x^3 - 16x^2 + 5x - 2\right) \div (x + 3)$

(4)

b) $\left(2x^3 - 5x^2 + 7x - 8\right) \div (2x - 3)$

(4)

2. Determine all factors of $\left(x^4 - 10x^2 + 9\right)$.

(4)

3. Solve the following.

a) $4x^2 + 7x - 2 = 0$

(2)

b) $2x^2 - 3x - 1 = 0$

(3)

4. Find the roots of $64x^3 + 27 = 0$

(4)

5. Solve each of the following.

a) $2x^4 + x^3 - 3x^2 - x + 1 = 0$

(5)

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

(5)