Unit 1 Review: Polynomials

Name:_____

Directions: Multiply the polynomials	Directions: Given one factor, factor completely.
1) $(y - 5)(y^2 - 2y + 4)$	2) $(p + 2)$ is a factor of $(3p^3 - 4p^2 - 13p + 14)$

Directions: Factor Completely.

3) $4n^4 - 16n^2 + 15$	4) $3x^3 + 4x^2 - 3x - 4$	5) $(x^4 - 11x^2 + 30)(5x^3 - x^2 - 15x + 3)$

CIRCLE the best answer.

| 6) Multiply: $(7x - 2y)(8x + 7y)$ A. $24x^2 + 53xy - 7y^2$ B. $16x^2 - 14xy - 24y^2$ C. $56x^2 + 33xy - 14y^2$ D. $16x^2 + 8xy - 24y^2$	7) Let $p(x) = x^3 + x^2 - 6$. What is the remainder when $p(x)$ is divided by $(x + 1)$? Show work. A. -6 B. 0 C. 1 D. 6

Directions: Perform the indicated operation.	Directions: Find the zeroes.
8) $\dfrac{m^3+4m^2+m-10}{m+3}$	9) $2h^2 - 13h + 5 = -2h$

20) The following rectangle has an area of $3x^2 - 5x - 12$.

a) What are the possible side lengths, in terms of x, for the rectangle? **(+3 points)**
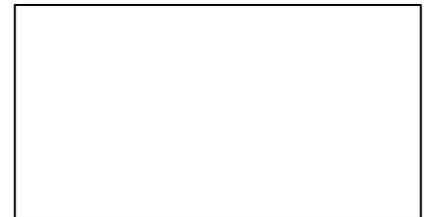
b) Explain your answer and justify how you know that the sides you found are indeed possible lengths. (use complete sentences, diagrams, shown work). **(+3 points)**

UNIT 2 Performance Task:

Name:_____

1) What numbers go in the blanks to make the equation true?

$$(2x^2 + \underline{\quad}x + 3)(\underline{\quad}x + 4) = 4x^3 + 20x^2 + 30x + 12$$

Using complete sentences, justify your answers.

2) Fill in the blank by finding the largest and smallest integers that will make the quadratic expression factorable.

$$2x^2 + 3x + \underline{\qquad}$$

Using complete sentences, justify your answers.