Name:_____   Class #:_____

Math 48B, Quiz 1

1.	REVIEW : PROPERTIES OF POWERS

For each of the following statements, simplify the expression as much as possible and eliminate any negative exponents.

1A. $\dfrac{x^{14}}{x^{-7}}$

1B. $(-3x^3y)^2 \cdot (2x^3y^4)$

1C. $\left(\dfrac{4x^4y^{-2}}{2x^{-3}y^5}\right) \cdot (-2x^{-2}y^3)$

2.	REVIEW : FACTOR THE FOLLOWING EXPRESSION COMPLETELY

Factor the following expressions completely. If you need a review of factoring, please take a look at this review of factoring. Remember: the goal of this is to help you understand... In fact, understanding is more important than getting the correct answer. Go slow and use any resources you need to fully understand the work you are writing.

2A. $2x^2 + 5x - 12$

2B. $14x^3 - 26x^2 - 4x$

3.	REVIEW : GRAPHING

Use Desmos.com to graph each of the following two polynomials:

3A. $P(x) = (x - 1)(x - 2)(x + 3)$

3B. $P(x) = x^4 - 3x^3 - 13x^2 + 15x$

Either make a sketch of each graph or take a screen shot and print the graph. On your figure, identify the following relevant features:

- x-intercepts (also known as the zeros of the graph)

- y-intercepts

- End behavior of output values of $P(x)$ as input $x \to -\infty$

- End behavior of output values of $P(x)$ as input $x \to +\infty$

- Local minimum values

- Local maximum values