

## 2.1 – 2.2 Test Review

Name: \_\_\_\_\_

Date: \_\_\_\_\_ Hour: \_\_\_\_

### Polynomial, Linear and Quadratic Functions, Power and Monomial

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#### 1. Linear functions:

A. General Form:

\_\_\_\_\_

B. Equation to find the slope:

\_\_\_\_\_

C. Write the equation for the linear function with the **points** (3, -6) and (7, 10).

Final Equation: \_\_\_\_\_

#### 2. Quadratic Functions:

A. General Form:

\_\_\_\_\_

C. Vertex:

\_\_\_\_\_

B. Vertex Form:

\_\_\_\_\_

D. Axis of Symmetry:

\_\_\_\_\_

E. Find the quadratic equation that has a **vertex** of (-3, 1) and **point** (-5, 2).

Final Equation: \_\_\_\_\_

F. Find the vertex and axis of symmetry of the following quadratic functions.

i.  $f(x) = -2(x + 4) - 5$

ii.  $f(x) = 2x^2 - 8x - 7$

A. Vertex: \_\_\_\_\_

A. Vertex: \_\_\_\_\_

B. Axis of Symmetry: \_\_\_\_\_

B. Axis of Symmetry: \_\_\_\_\_

3. Polynomial Functions, Power Functions and Monomial Functions:

Function	Form	Restriction(s)	Example
Polynomial			
Power			
Monomial			

A.  $f(x) = -2x^6 + x^2 + 7$

Circle the correct type:

Polynomial    Power    Monomial

Degree/Power: \_\_\_\_\_

Leading Coefficient/C.O.V.: \_\_\_\_\_

B.  $f(x) = -\frac{5}{x^2}$

Circle the correct type:

Polynomial    Power    Monomial

Degree/Power: \_\_\_\_\_

Leading Coefficient/C.O.V.: \_\_\_\_\_

G. Power Functions:

a. Write the statements below as a power function equation.

$y$ varies directly with the fourth power of $x$ .	
$y$ is directly proportional to the cube root of $x$ .	
$y$ is inversely proportional to the cube of $x$ .	
$p$ varies inversely with $m$ .	

b. Write a sentence that expresses the relationship in the formula, using the language of variation or proportion.

$y = 3x^{-2}$	
$y = \frac{1}{4}x^5$	
$y = 4.7x^{\frac{1}{2}}$	
$A = \pi r^2$ ( $A = \text{area}$ and $r = \text{radius}$ )	