

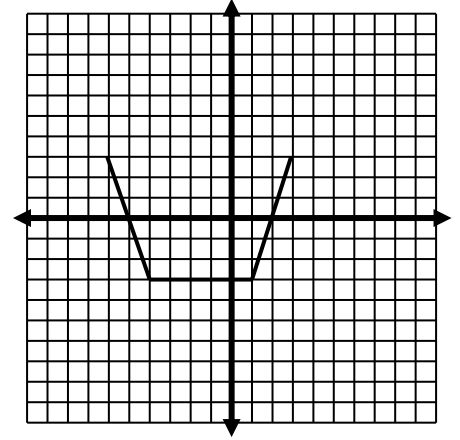
Math 2

Name: _____

Unit 2A Test Review

I. Fred Functions: The graph to the right shows $F(x)$:

1. List the characteristic points of $F(x)$.
2. What is the domain and range of $F(x)$?
3. Graph the transformation $F(x+2) + 5$ on the graph
 - a. Describe the transformation in words.
 - b. What is the new domain and range?



Questions 4 -6. Assume the function $G(x)$ has a domain of $-2 \leq x \leq 6$ and a range of $-8 \leq y \leq 4$. Describe in words ALL of the transformations that take place in the following and state the new domain and range.

4. $y = G(-x) - 4$
 - a. Transformations:
 - b. Domain:
 - c. Range:
5. $y = -\frac{1}{2}G(x)$
 - a. Transformations:
 - b. Domain:
 - c. Range:
6. $y = 2G(x - 4) + 7$
 - a. Transformations:
 - b. Domain:
 - c. Range:
7. Write an expression for the function $H(x)$ which is translated to the right by 2, translated up 5, reflected in the x-axis and with a vertical shrink of $\frac{1}{3}$

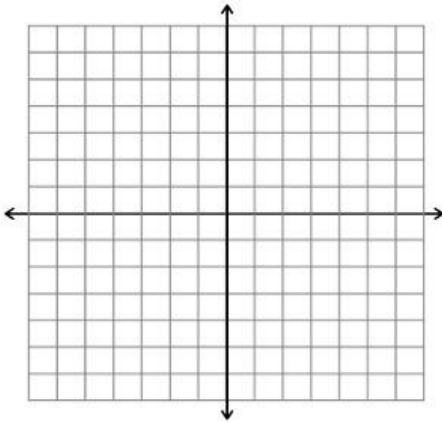
II. Adding/Subtracting/Multiplying Polynomials:

Simplify the following and put your final answer in standard form. Circle your final answer.

8) $8x^2 - 6x + 5 + 2x^2 + 3x - 7$	9) $4x^2 - 7x + 2 - (6x^2 - 5x + 3)$
10) $(6x + 5)(7x - 2)$	11) $(4x + 3)(3x^2 - 6x - 2)$

III. Characteristics of Quadratics: Graph and identify the characteristics of quadratics

12. $y = x^2 - 6x + 5$



Domain: _____

Range: _____

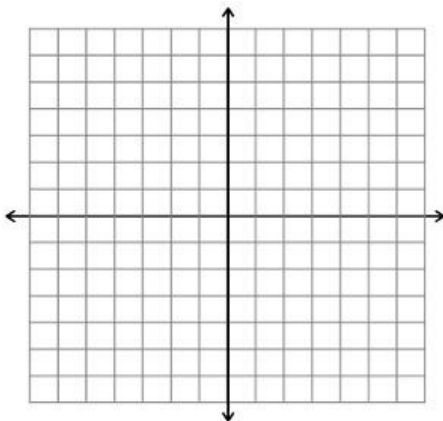
Axis of Symmetry: _____

Vertex: _____

y-intercept: _____

x-intercept(s): _____

13. $y = (x + 6)(x + 2)$



Domain: _____

Range: _____

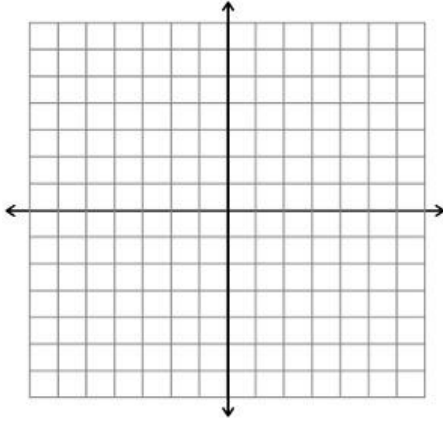
Axis of Symmetry: _____

Vertex: _____

y-intercept: _____

x-intercept(s): _____

$$14. y = -\frac{1}{3}(x - 1)^2 + 3$$



Domain: _____

Range: _____

Axis of Symmetry: _____

Vertex: _____

y-intercept: _____

x-intercept(s): _____

IV. Factoring: Factor Completely

(15) $4x^2 + 28x$

(16) $8x^3 + 20x^2 + 6x + 15$

(17) $9x^2 - 25$

(18) $x^2 + 13x + 36$

(19) $x^2 + 11x - 42$

(20) $x^2 - 12x + 36$

(21) $10x^2 - 11x - 6$

(22) $5x^2 + 20x + 15$

V. Completing the Square: Complete the square and put in vertex form

(23) $y = x^2 - 4x + 9$

(24) $y = -3x^2 - 24x - 55$