

Math Instructional Framework

Full Name	
Time Frame	6 weeks - Unit 5
Unit Name	Polynomials
Learning Task/Topics/ Themes	Odd and Even Functions Transformations
Standards and Elements	MM3A1 – Students will analyze graphs of polynomial functions of higher degree. c. Determine whether a polynomial function has symmetry and whether it is even, odd, or neither.
Lesson Essential Questions	What is the difference between an odd and even function? How do you perform transformations on polynomial functions?
Activator	Using collaborative pairs to discuss polynomial functions and end behavior.
Vocabulary	Polynomial functions End behavior Even function Odd function
Work Session	PowerPoint: Odd and Even Functions – graphically and algebraically Task: Transformation of Graphs PowerPoint: Review transformations. Task: Transformations worksheet Classwork/Homework: Graphing Transformations.
Summarizing/Closing/Formative Assessment	

Classwork/Homework

Name: _____

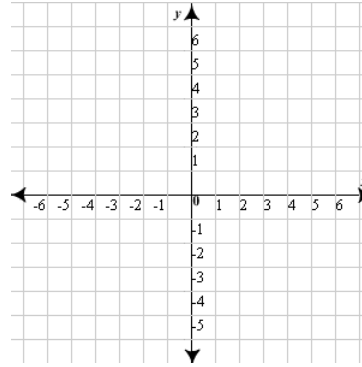
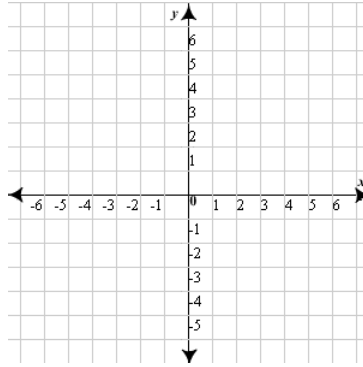
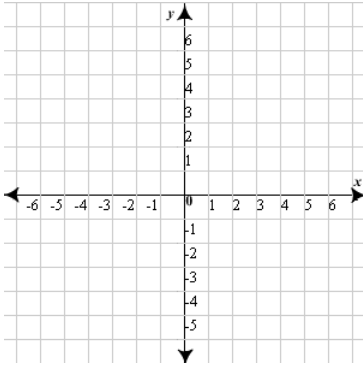
Date: _____

Graph the following transformations

1. $y = \frac{1}{4}x^2 + 5$

2. $y = 2(x+1)^2 - 2$

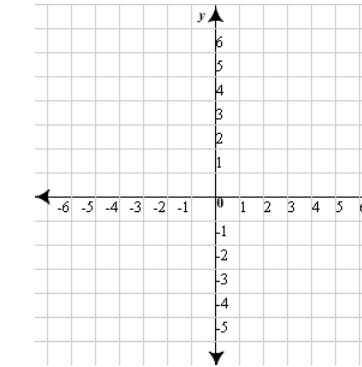
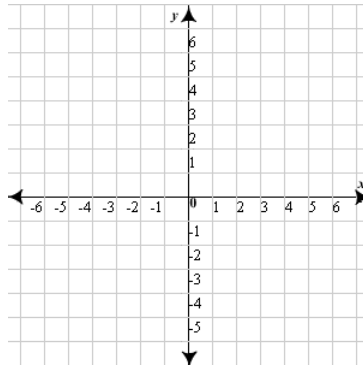
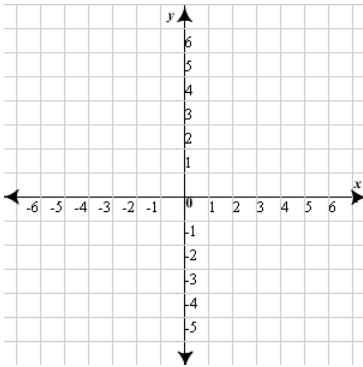
3. $y = -\sqrt{x} + 4$



4. $y = \sqrt{-x} + 1$

5. $y = -|x+2| - 2$

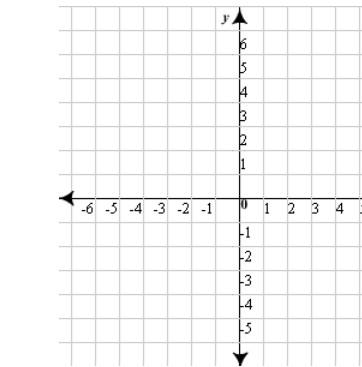
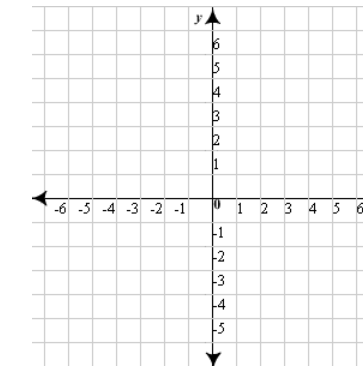
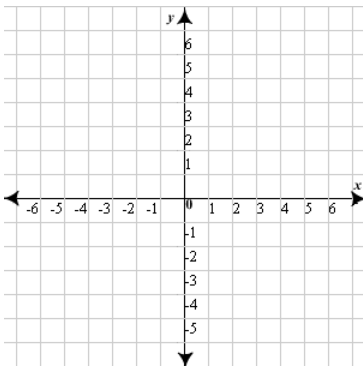
6. $y = \frac{1}{3}x^3 - 2$



7. $y = 3(x+3)^2$

8. $y = -\sqrt{x-2}$

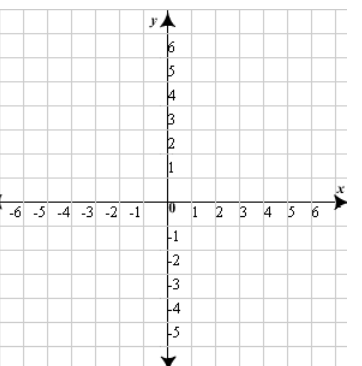
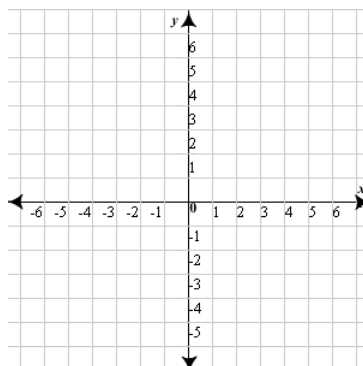
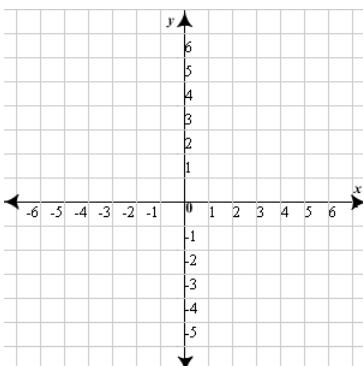
9. $y = \frac{2}{3}(x-5)^3$



10. $y = -3(x+3)^2 + 1$

11. $y = \sqrt{x-3}$

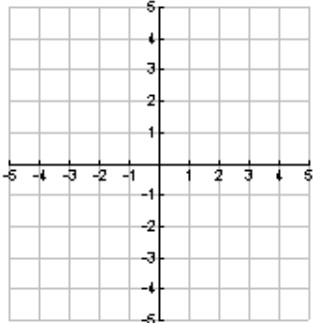
12. $-\frac{1}{4}(x-3)^3 + 3$



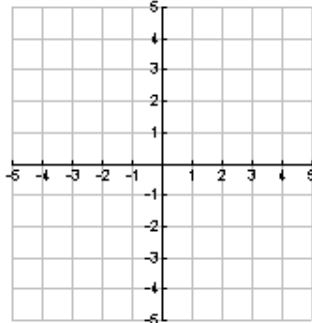
Transformations

Graph the equations without a calculator.

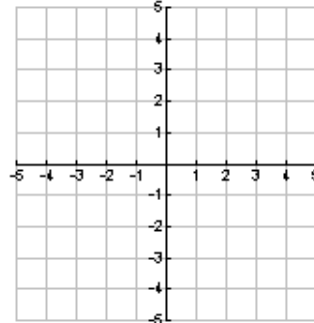
1. $f(x) = (x-3)^2 - 1$



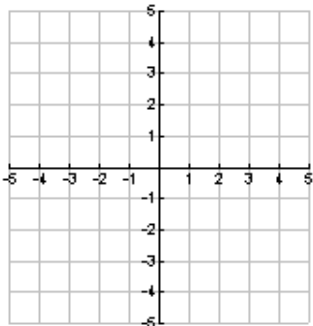
2. $f(x) = (x-2)^2 + 1$



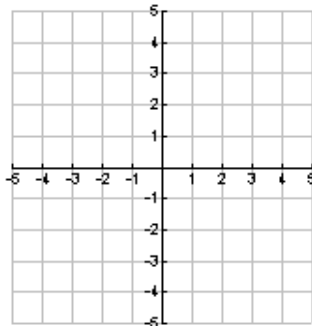
3. $f(x) = -(x+3)^2$



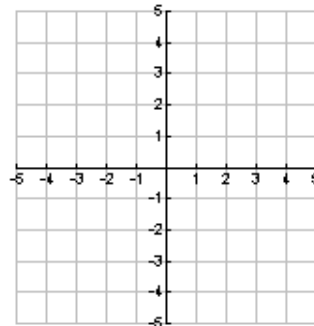
4. $f(x) = (x+1)^2 + 3$



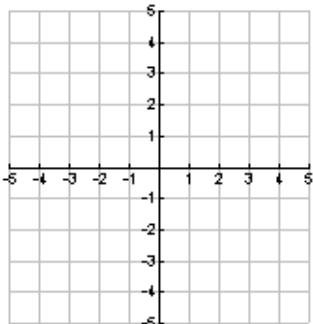
5. $f(x) = |x-3| + 1$



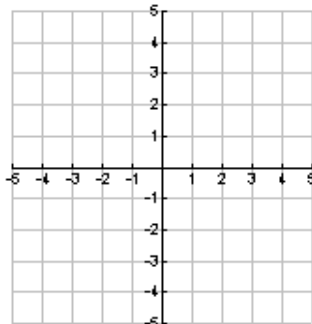
6. $f(x) = -|x+2| + 1$



7. $f(x) = \sqrt{x} - 2$



8. $f(x) = -\sqrt{x+2}$



Math Instructional Framework

Full Name	
Time Frame	6 weeks Unit 5
Unit Name	Polynomial Functions
Learning Task/Topics/ Themes	Investigate Planes
Standards and Elements	MM3G3. Investigate planes a. Plot $(x,y,,z)$ and understand it as the vertex of a rectangular prism b. Apply distance formula in 3-space
Lesson Essential Questions	How to plot a point in 3-dimension and a rectangular prism when given two diagonal points? How to apply distance formula in 3-space?
Activator	Review distance formula for two-dimensional Use corner of room to describe 3-dimensions
Vocabulary	Three-dimensional coordinate system, xyz plane and intercepts rectangular prism distance formula
Work Session	Kuta software Infinite Algebra 2 “Points in three dimensions” and “Planes” textbook examples
Summarizing/Closing/Formative Assessment	The swimming debate learning task (frameworks) Writing to win: Acrostic “Prism”

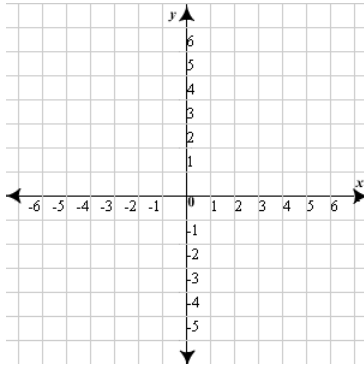
Classwork/Homework #2

Name: _____

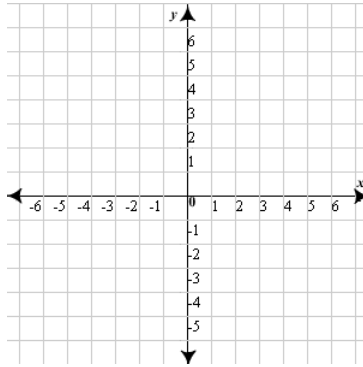
Date: _____

Graph the following transformations

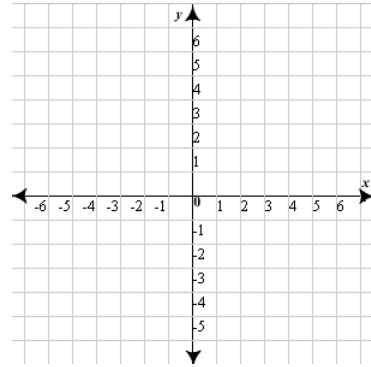
1. $y = \frac{1}{4}x^2 + 5$



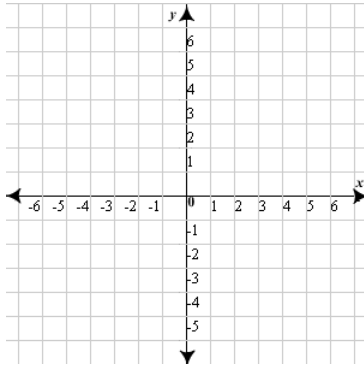
2. $y = 2(x+1)^2 - 2$



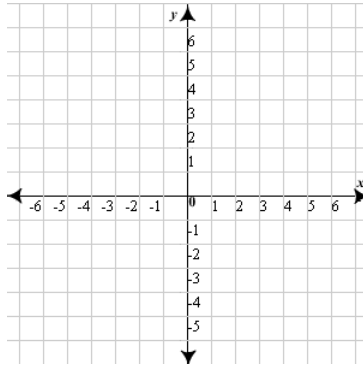
3. $y = -\sqrt{x} + 4$



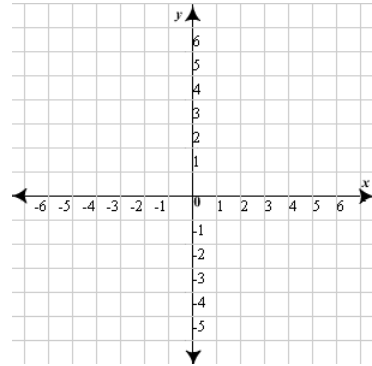
4. $y = \sqrt{-x} + 1$



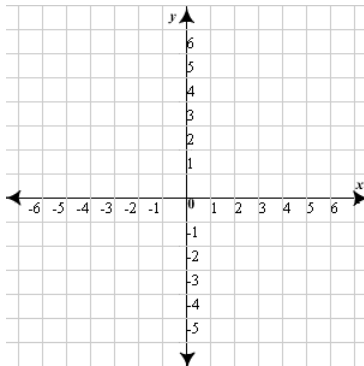
5. $y = -|x+2| - 2$



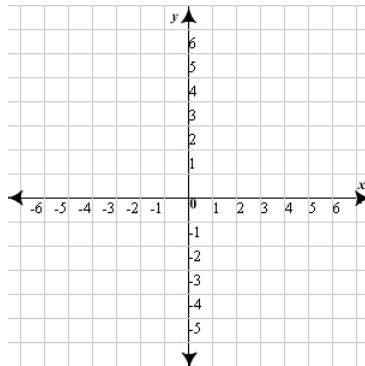
6. $y = \frac{1}{3}x^3 - 2$



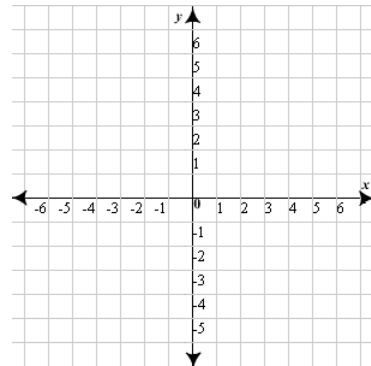
7. $y = 3(x+3)^2$



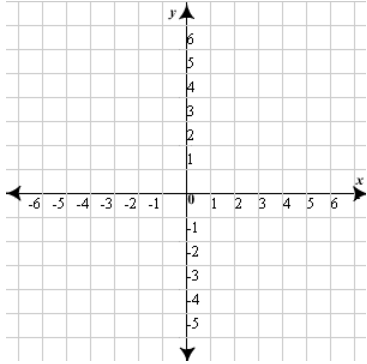
8. $y = -\sqrt{x-2}$



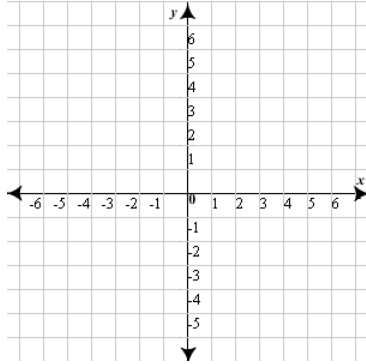
9. $y = \frac{2}{3}(x-5)^3$



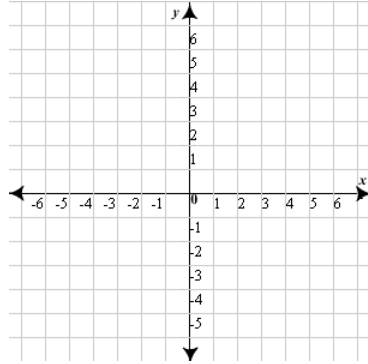
$$10. y = -3(x + 3)^2 + 1$$



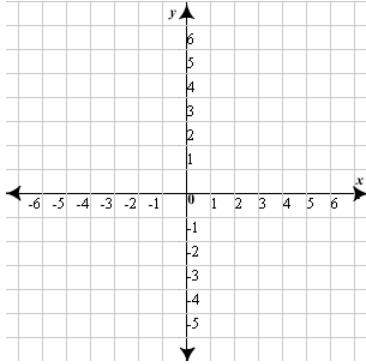
$$11. y = \sqrt{x - 3}$$



$$12. -1/4 (x - 3)^3 + 3$$



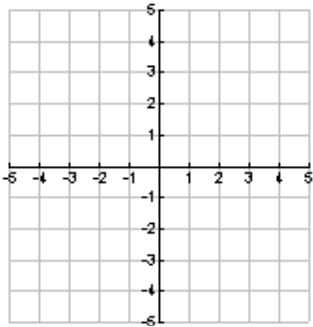
$$13. y = 2|x + 2|$$



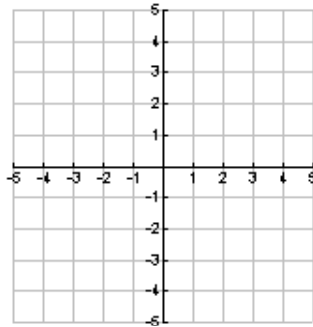
Transformations

Graph the equations without a calculator.

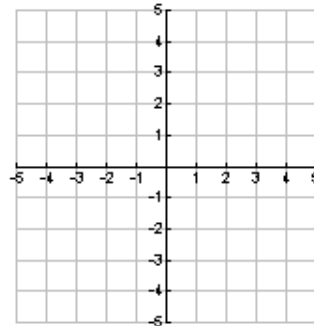
1. $f(x) = (x-3)^2 - 1$



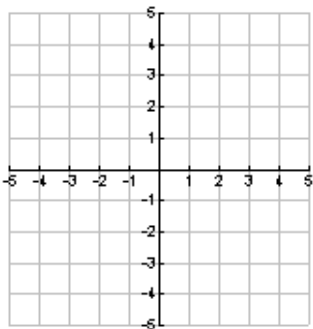
2. $f(x) = (x-2)^2 + 1$



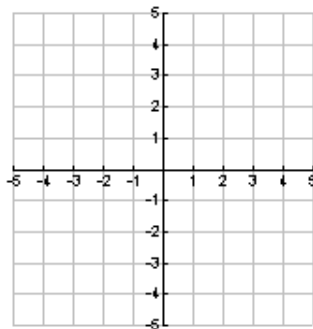
3. $f(x) = -(x+3)^2$



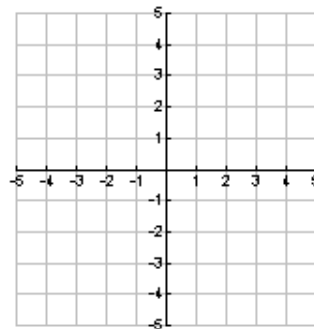
4. $f(x) = (x+1)^2 + 3$



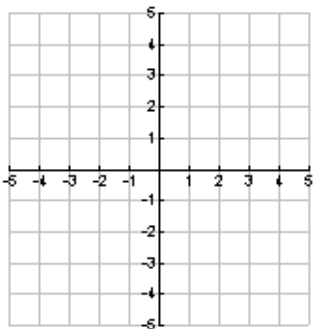
5. $f(x) = |x-3| + 1$



6. $f(x) = -|x+2| + 1$



7. $f(x) = \sqrt{x} - 2$



8. $f(x) = -\sqrt{x+2}$

