

Before we begin, are there any questions from last day's work?

Today's Learning Goal(s):

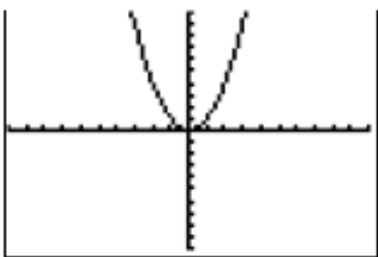

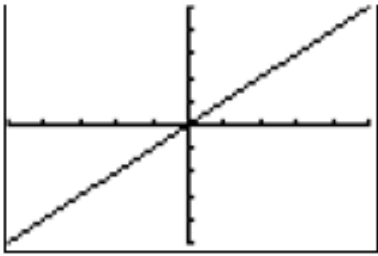
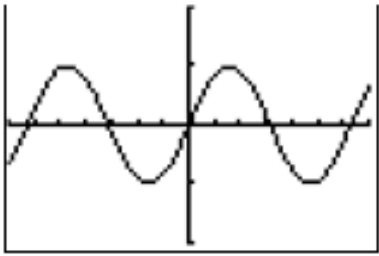
By the end of the class, I will be able to:

- a) differentiate between the following types of functions:
linear, quadratic, cubic, quartic, exponential and sinusoidal

Use Vertical White Boards?

2.4.2: Polynomial Concept Attainment Activity

Date: _____

Examples	Non-Examples
$y = x$	$y = \sqrt{x}$
$y = 2x - 1$	$y = 3x^{\frac{1}{2}} - x$
$y = x(x^2 - 4)(x + 2)$	$x = -6$
$y = x^2$	$x^2 + y^2 = 16$
$y = (x - 2)^2 + 1$	$h(x) = \sqrt[3]{x}$
$y = -x^4 + \frac{1}{2}x^2 - 3$	$y = \sin \beta$
$y = -0.2(4x - 3)(x + 3)$	$y = \frac{1}{x - 2}$
$y = x^3 + 2x^2 - x + 11$	$y = 2^x$
$y = 4$	$y = \frac{x - 1}{x^2 - x + 1}$
	
	

Today's work: Complete 2.4.3 for the 5 remaining functions.

Complete 2.4.4

Read p.194

Complete pp. 197-198 #1, 2, 5

2.4.4: Polynomial or Not?

Date: _____

Determine if each of the following equations/graphs represents a polynomial function or not. Justify your reasoning.

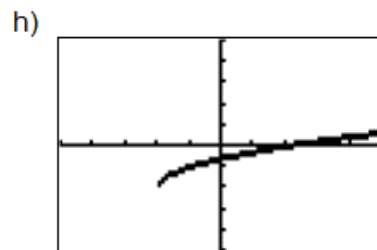
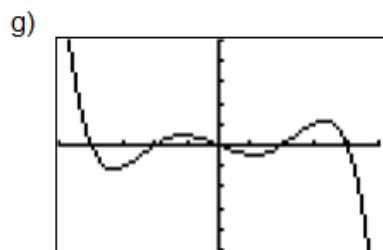
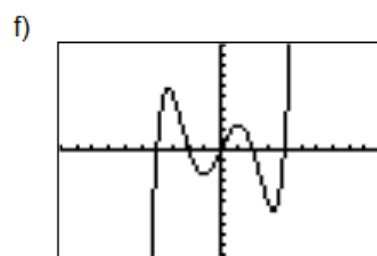
a) $f(x) = 2x^3 + x^2 - 5$

b) $f(x) = \sqrt{x+1}$

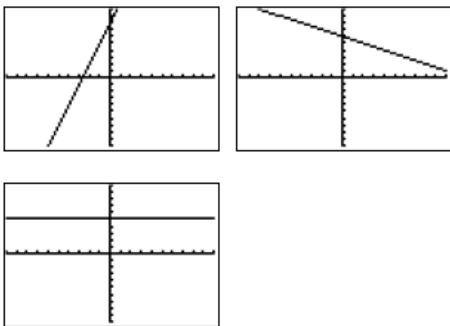
c) $f(x) = \cos x$

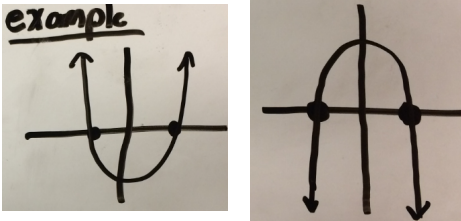
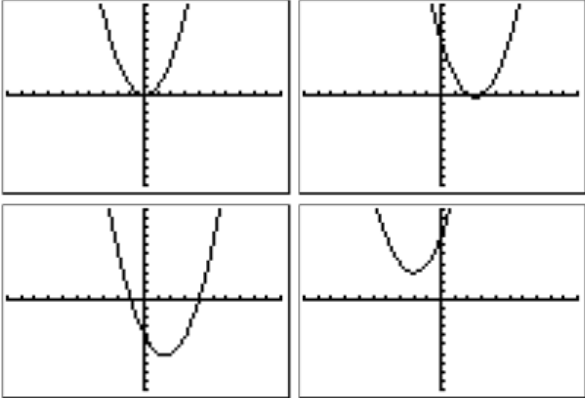
d) $f(x) = \frac{2}{x+3}$

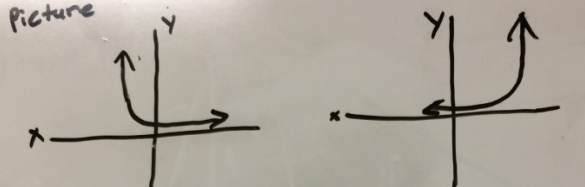
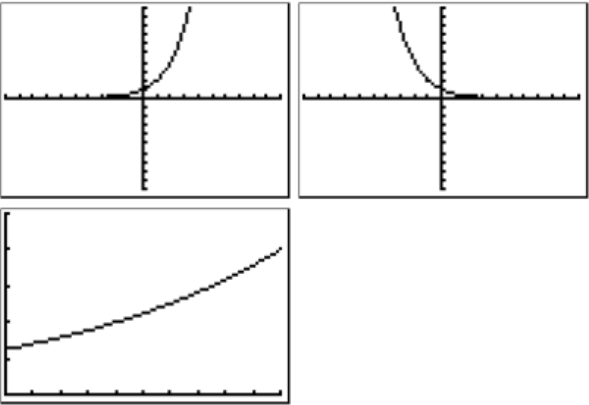
e) $f(x) = x(x-1)^4$

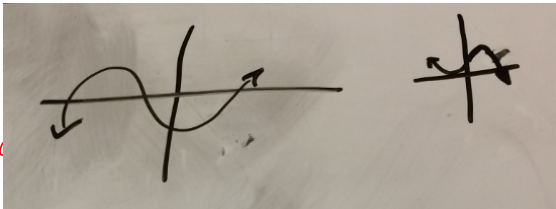
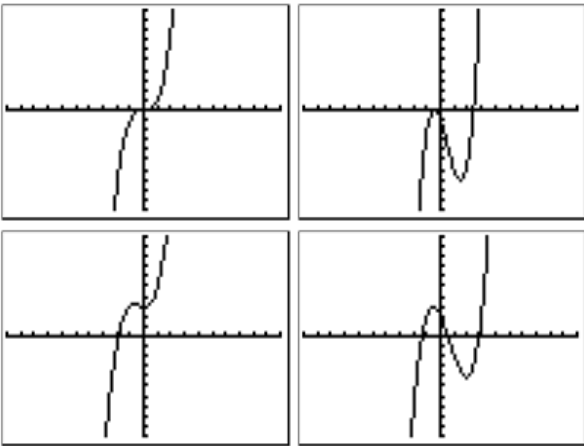


2.4.3: Do you see what I see? – Sample Solutions

<p>Vocabulary Term</p> <p style="text-align: center;">Linear function</p>	<p>Picture</p> 
<p>Your Definition</p> <p><i>A relation between two variables that appears as a line when graphed.</i></p> <p><i>The equation relating the two variables has degree one.</i></p>	<p>Real Life Connection</p> <p><i>The relationship between earnings and number of hours worked for a person paid per hour.</i></p> <p><i>The relationship between cost and the number of litres of gas purchased at a gas station.</i></p>

<p>Vocabulary Term</p> <h1>Quadratic function</h1> <p>Briana</p> <p><u>example</u></p> 	<p>Picture</p> 
<p><u>Description</u></p> <p>The graph will have the same end behavior. It can have a max. of two zeroes. X can be anything.</p>	<p><u>Real life example</u></p> <p>→ Ball being thrown</p>

<p>Vocabulary Term</p> <h1><u>Exponential</u> function</h1> <p>Picture</p>  <p>The image shows two hand-drawn coordinate systems. The left one shows an exponential growth curve starting near the x-axis and rising steeply. The right one shows an exponential decay curve starting high and approaching the x-axis from above.</p>	<p>Picture</p>  <p>The image shows three printed coordinate systems. The top-left shows an exponential growth curve. The top-right shows an exponential decay curve. The bottom-center shows a graph of an exponential growth curve with a grid.</p>
<p>a function that gets close to the H.A. but never touches</p>	<p>Real life</p> <p>-population growth and decay</p>

<p>Vocabulary Term</p> <p style="text-align: center;"><u>Cubic</u> <u>function</u></p> 	<p>Picture</p> 
<p>Your Definition</p> <p>Definition x^3</p> <p>Relationship between x variables.</p> <p>Maximum x-intercepts is 3</p> <p>Degree of 3</p>	<p>Real life connection</p> <p>- The volume of a box</p>

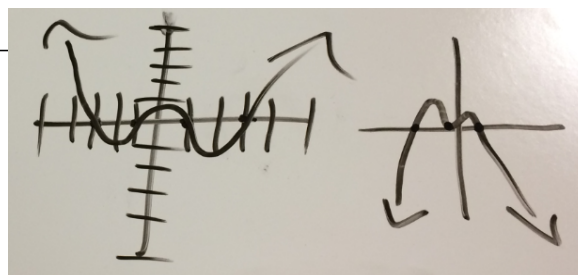
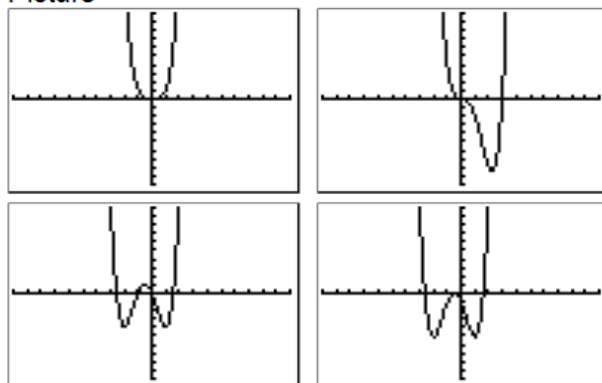
Vocabulary Term

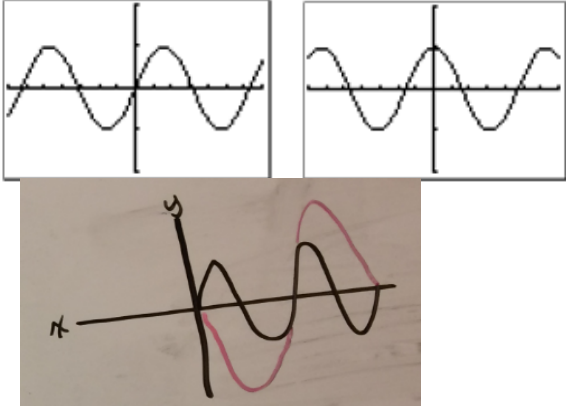
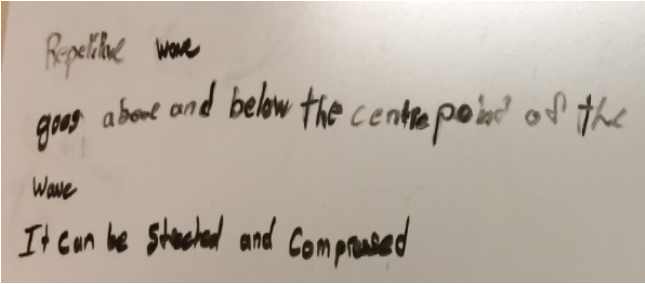
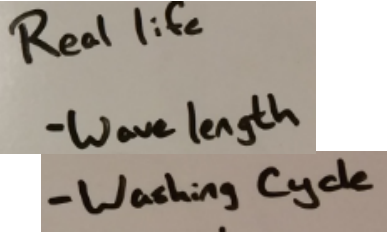
Quartic function

Cole

- Has an exponent of 4
- Looks like a W
- Both y values will go to infinity the same way

Picture



<p>Vocabulary Term</p> <p>Sinusoidal function</p> <p>Dylan</p>	<p>Picture</p>  <p>The 'Picture' section contains three images. At the top are two printed graphs of sinusoidal waves, each showing a full cycle of a wave oscillating around a horizontal center line. Below these is a hand-drawn graph on a coordinate plane with x and y axes. A black line represents a sinusoidal wave, and a pink oval highlights one full cycle of the wave.</p>
<p>Your Definition</p>  <p>Repetitive wave goes above and below the centre point of the wave It can be stretched and compressed</p>	<p>Real Life Connection</p>  <p>Real life -Wave length -Washing Cycle</p>