

**(A) Lesson Context**

BIG PICTURE of this UNIT:	<ul style="list-style-type: none"> <li>• What is a Polynomial and how do they look?</li> <li>• What are the attributes of a Polynomial?</li> <li>• How do I work with Polynomials?</li> </ul>		
CONTEXT of this LESSON:	Where we've been  We have discussed the basics: degree, type, and operations (+, -, x)	Where we are  What are the key attributes of a polynomial and how do these affect the shape?	Where we are heading  What are the key attributes of a polynomial and how do these affect the shape?

**(B) Lesson Objectives:**

- a. Write down some observations based off the following questions.
- b. Answer some extension questions.

**(C) Some Context**

Lets try and get a grasp on what a Polynomial is, and then we will attempt to develop an understanding of the related vocabulary. So first, some context. In each of the scenarios below please come up with an appropriate polynomial that models each situation.

**Connections and Reflections:**

1. Please reflect upon and write about any connections between the <b>Factored Form</b> equation and the <b>graph</b> .	Writen Response:
Picture or sketch to support your thinking.	

<p>2. Please reflect upon and write about any connections between the <b>Standard Form</b> equation and the <b>graph</b>.</p>	<p>Written Response:</p>
<p>Picture or sketch to support your thinking.</p>	

<p>3. Please reflect upon and write about any connections between the <b>x-intercepts</b> equation and the <b>Equation</b>.</p>	<p>Written Response:</p>
<p>Picture or sketch to support your thinking.</p>	

<p>4. Please reflect upon and write about any connections between the <b>y-intercepts</b> equation and the <b>Equation</b>.</p>	<p>Written Response:</p>
<p>Picture or sketch to support your thinking.</p>	

<p>4. Please reflect upon and write about any connections between the <b>Degree</b> of the polynomial and the <b>Shape of the graph</b>.</p>	<p>Written Response:</p>
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Picture or sketch to support your thinking. Show 1 or 2 examples of your thinking.

<p>5. Please reflect upon and write about any connections between the Sign of the Leading coefficient and the <b>Shape of the graph</b>.</p>	<p>Written Response:</p>
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Picture or sketch to support your thinking. Show 1 or 2 examples of your thinking.

### Final Consolidation

Degree and family name	1 <sup>st</sup> Degree Name:	2 <sup>nd</sup> Degree Name:	3 <sup>rd</sup> Degree Name:	4 <sup>th</sup> Degree Name:	5 <sup>th</sup> Degree Name:
	Graph Shape	Graph Shape	Graph Shape	Graph Shape	Graph Shape
+ Leading Coefficient					
- Leading Coefficient					

EXT 1. Given the following **factored form equation**... without technology... put into standard form and draw a sketch of the **graph**.

$$f(x) = (x - 1)(x - 7)(x + 2)$$

EXT 2. Given the following **Graph**... write a possible factored form equation or standard form **equation**.

