

Daily Agenda

Learning Target:  
I can write equations of polynomials given the x-intercepts and a point

Homework	Assessments
4.5 Formative	Unit 4 Test 11/14
Finish Factoring WS	Skip 20, 25, 30, 32.

If you don't have time to do it right, when will you have time to do it?  
-John Wooden

Nov 15-8:24 PM

### 4.5 Writing Equations of Polynomials

<p><b>End Behavior</b></p> <p>mimics either:</p> <table border="0"> <tr><td><math>x^2</math></td><td>↑↑</td></tr> <tr><td><math>-x^2</math></td><td>↓↓</td></tr> <tr><td><math>x^3</math></td><td>↓↑</td></tr> <tr><td><math>-x^3</math></td><td>↑↓</td></tr> </table>	$x^2$	↑↑	$-x^2$	↓↓	$x^3$	↓↑	$-x^3$	↑↓	<p><b>Multiplicity of Zeros</b></p> <p>even - bounces odd - crosses</p> <p>the higher the multiplicity, the flatter the graph at the zero</p>
$x^2$	↑↑								
$-x^2$	↓↓								
$x^3$	↓↑								
$-x^3$	↑↓								

Jan 17-7:39 AM

### Desmos Exploration

Graph the following:

$y = x^2$	$y = x^3$
$y = x^4$	$y = x^5$
$y = x^6$	$y = x^7$

Nov 9-8:23 AM

Given the graph, write the particular equation of the polynomial function in factored form.

Zeros:  $-2, -1, 1$  y-int  $(0, -2)$

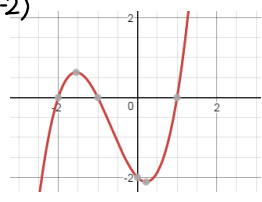
$f(x) = a(x+2)(x+1)(x-1)$

$-2 = a(2)(1)(-1)$

$-2 = -2a$

$1 = a$

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



Nov 7-1:40 PM

Given the graph, write the particular equation of the polynomial function in factored form.

Zeros:  $-3, -1, 1$  y-int  $(0, 3)$

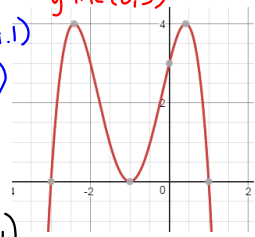
$f(x) = a(x+3)(x+1)^2(x-1)$

$3 = a(3)(1)^2(-1)$

$3 = -3a$

$-1 = a$

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



Nov 7-1:40 PM

Given the graph, write the particular equation of the polynomial function in factored form.

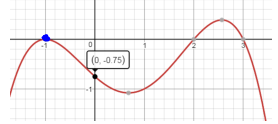
$f(x) = a(x+1)^2(x-2)(x-3)$

$-\frac{3}{4} = a(1)^2(-2)(-3)$

$-\frac{3}{4} = +6a$

$-\frac{3}{4} \cdot \frac{1}{6} = a = -\frac{1}{8}$

$f(x) = -\frac{1}{8}(x+1)^2(x-2)(x-3)$



Nov 7-1:40 PM