

**Algebra 2 Honors**  
**Jan 6 to Jan 16**

Date	Topic	Assignment
Tuesday 1/6	Polynomial (add, subtract, multiply)	P. 349 (3-13 odd, 17-25 odd, 29, 33, 40, 48-51)
Wednesday 1/7	Polynomial Long Division	P. 366 (3-10 all)
Thursday 1/8	Polynomial Synthetic Division	P. 366 (11-20 all)
Friday 1/9	Polynomial - Remainder and Factor Theorems	P. 366 (21-33 odd, 36, 37, 40)
Monday 1/12	Graphing Polynomials (day 1)	P. 390 (4, 5, 9, 11, 12, 34 - 37 all) State the type, roots, y-intercept and graph.
Tuesday 1/13	Graphing Polynomials (day 2)	Worksheet
Wednesday 1/14	Solving Polynomial Inequalities	Worksheet
Thursday 1/15	Solving Polynomial Inequalities and Review	
Friday 1/16	<b>Test 3.1 - Polynomials</b>	

**Polynomial Graphing - Tuesday 1/13**

**I. For each polynomial state the type, find the roots and y-intercept and sketch a graph.**

- 1)  $h(x) = (x+2)(3x-2)(x-3)^2$       2)  $f(x) = x(x+2)^3(x-1)$       3)  $f(x) = (x+1)(x^2+6x+8)$   
 4)  $g(x) = (x-3)(x^3-3x^2+2x)$       5)  $h(x) = (x+1)(3x^2+5x-2)$       6)  $r(x) = (x+2)(2x^2+3x-2)$   
 7)  $w(x) = (x^2-5x+4)(x^2-3x+2)$       8)  $f(x) = -3x^2(x-2)^2(x+1)^3$

**Solving Polynomial Inequalities - Wednesday 1/14**

1.  $(x-3)(2x+5)(x+1) > 0$       2.  $(x+3)^2(x-2) \geq 0$       3.  $(x-1)^3(x+2)^2 < 0$   
 4.  $3x(x-4)(x+1) < 0$       5.  $(3x-1)(x+7)^2(x-1)^2 \geq 0$       6.  $-\frac{1}{3}x^2(x-3)(x+5)^2 > 0$   
 7.  $x(2x-3)(x+5)^3 < 0$       8.  $-2x^4(x-1)^2(x^2+2x+1) \leq 0$   
 9.  $(x^2-4)(3x^2+7x+2) > 0$       10.  $(2-x)(x+3)^3 \leq 0$   
 11.  $x^4(5-x)^2(1-x) > 0$       12.  $-x(x+3)(5x+3)^3 > 0$