## Algebra 2 Polynomial Characteristics – 6 problems

10
9 8 7 6 5
9
+ State the range.
As $x \to -\infty$ , $f(x) \to \_\$ As $x \to \infty$ , $f(x) \to \_\$
POS int: Neg int:
INC int: DEC int:

Algebra 2 Polynomial Characteristics – 6 prob	Name
Graph the function:	×
2. $f(x) = -x^2 - 2x - 4$	
<b>≺</b> -10 -9	-8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10 → x -1 -2
State the domain.	State the range.
Describe the end behavior.	As $x \to -\infty$ , $f(x) \to \_\_\_$ As $x \to \infty$ , $f(x) \to \_\_\_$
<b>Identify the <u>positive</u> and <u>negative</u> intervals.</b> Use two highlighters to color-code the intervals, then write in interval notation.	POS int: Neg int:
State all absolute and/or relative maximums or minimums.	
State the y- intercept.	
Find all zeros. State any multiplicity.	
Identify the intervals that are <u>increasing</u> and <u>decreasing</u> .	INC int:
Use two highlighters to color-code the intervals, then write in interval notation. (Make sure to use different colors than before).	DEC int:

Algebra 2		Name
<b>Polynomial Characte</b> Graph the function:	ristics – 6 probl	ems
		3º
3. $f(x) = x^3 - 3x + 1$		9
		7
		6 5 5
		3
		2
	<b>≺</b> -10 -9 -8 -7 -6	·5 ·4 ·3 ·2 ·1 0 1 2 3 4 5 6 7 8 9 10 → x
		-1
		-5
		9
State the domain.		State the range.
Describe the end behavior.		As $x \to -\infty$ , $f(x) \to \_\_\_$ As $x \to \infty$ , $f(x) \to \_\_\_$
Identify the positive and ne		POS int:
Use two highlighters to color-code the intervals, then write in interval notation.		Neg int:
State all absolute		
and/or relative		
maximums or minimums.		
State the y- intercept.		
Find all zeros. State any multiplicity.		
Identify the intervals that a <u>decreasing</u> .	ire increasing and	INC int:
Use two highlighters to color-code the		
intervals, then write in interval notation. (Make sure to use different colors than before).		DEC int:

Algebra 2 <b>Polynomial Chara</b>	cteristics – 6 probl	Name
-	cteristics – o probi	×
Graph the function: 4. $f(x) = -3x^3 + 9x^2$	-8	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
State the domain.		State the range. As $x \rightarrow -\infty$ , $f(x) \rightarrow \_\_$
Describe the end beha	vior.	As $x \to \infty$ , $f(x) \to \_\_\_$
<b>Identify the <u>positive</u> an</b> Use two highlighters to intervals, then write in	color-code the	POS int: Neg int:
State all absolute and/or relative maximums or minimums.		
State the y- intercept.		
Find all zeros. State any multiplicity.		
<b>Identify the intervals th</b> <b>decreasing.</b> Use two highlighters to intervals, then write in (Make sure to use differe	color-code the interval notation.	INC int: DEC int: