Algebra 2 Name_____

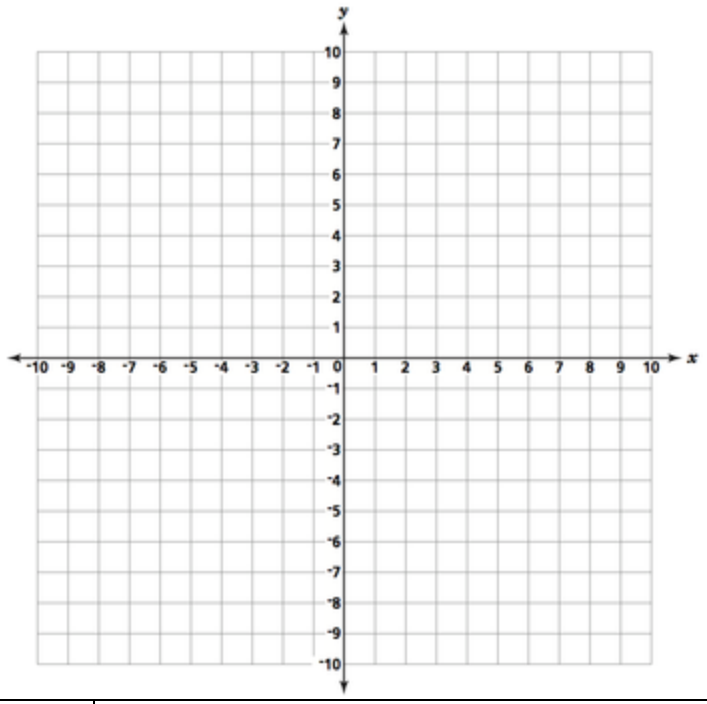
Polynomial Characteristics – 6 problems

Graph the function:

1. $f(x) = (x-4)^2 - 3$

Use the graphing calculator & table function to find points.

Graph the function, then hit **2nd** then **graph** to get to the table.



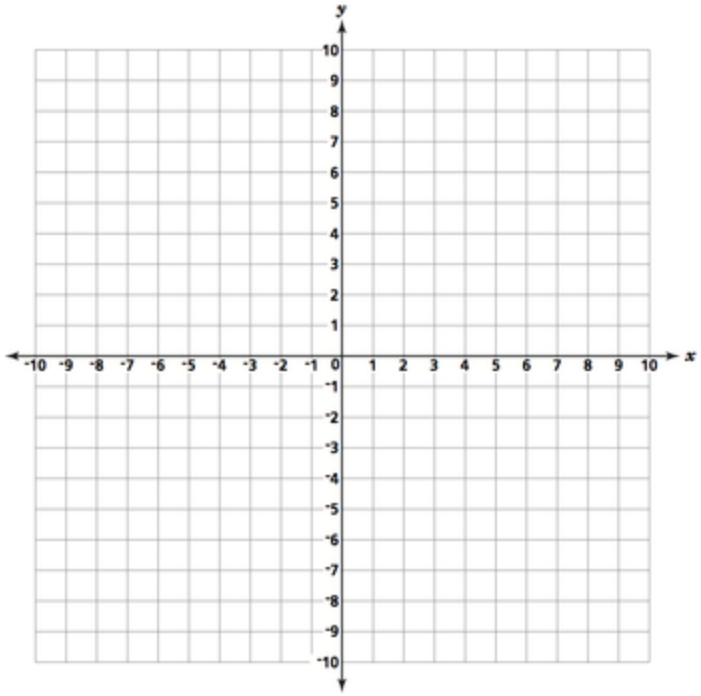
State the domain.	**State the range.**
Describe the end behavior.	As x →-∞, f(x) → ____ As x →∞, f(x) → ____
Identify the positive and negative intervals. Use two highlighters to color-code the intervals, then write in interval notation.	POS int: Neg int:
State all absolute and/or relative maximums or minimums.	
State the y- intercept.	
Find all zeros. State any multiplicity.	
Identify the intervals that are increasing and decreasing. Use two highlighters to color-code the intervals, then write in interval notation. (Make sure to use different colors than before).	INC int: DEC int:

Algebra 2 Name_____

Polynomial Characteristics – 6 problems

Graph the function:

2. $f(x) = -x^2 - 2x - 4$



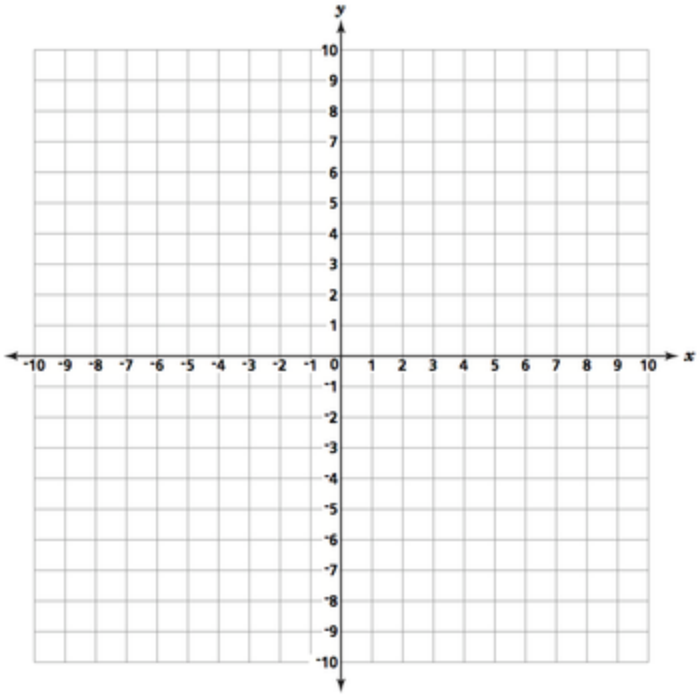
State the domain.	**State the range.**
Describe the end behavior.	As x →-∞, f(x) → ____ As x →∞, f(x) → ____
Identify the <u>positive</u> and <u>negative</u> intervals. Use two highlighters to color-code the intervals, then write in interval notation.	POS int: Neg int:
State all absolute and/or relative 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>. Use two highlighters to color-code the intervals, then write in interval notation. (Make sure to use different colors than before).	INC int: DEC int:

Algebra 2 Name_____

Polynomial Characteristics – 6 problems

Graph the function:

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



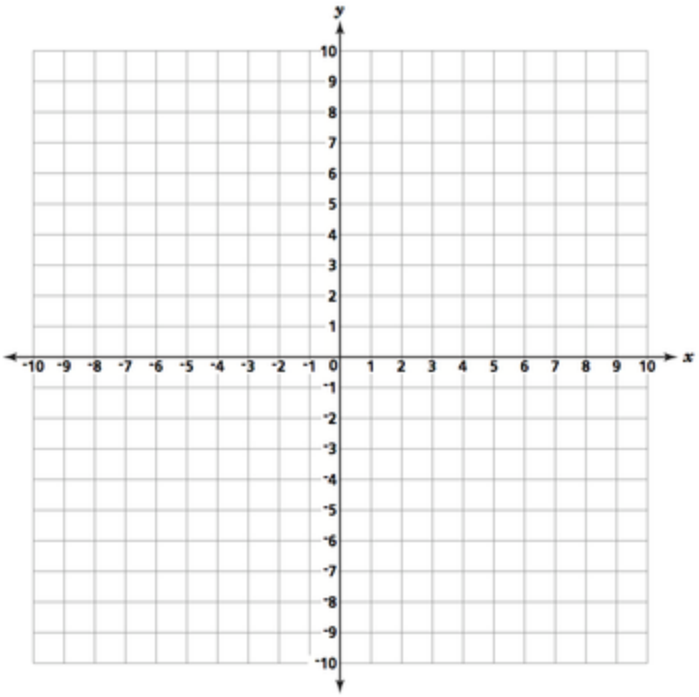
State the domain.	**State the range.**
Describe the end behavior.	As x →-∞, f(x) → ____ As x →∞, f(x) → ____
Identify the <u>positive</u> and <u>negative</u> intervals. Use two highlighters to color-code the intervals, then write in interval notation.	POS int: Neg int:
State all absolute and/or relative 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>. Use two highlighters to color-code the intervals, then write in interval notation. (Make sure to use different colors than before).	INC int: DEC int:

Algebra 2 Name_____

Polynomial Characteristics – 6 problems

Graph the function:

4. $f(x) = -3x^3 + 9x^2 - 8$



State the domain.	**State the range.**
Describe the end behavior.	As x →-∞, f(x) → ____ As x →∞, f(x) → ____
Identify the positive and negative intervals. 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 increasing and decreasing. Use two highlighters to color-code the intervals, then write in interval notation. (Make sure to use different colors than before).	INC int: DEC int: