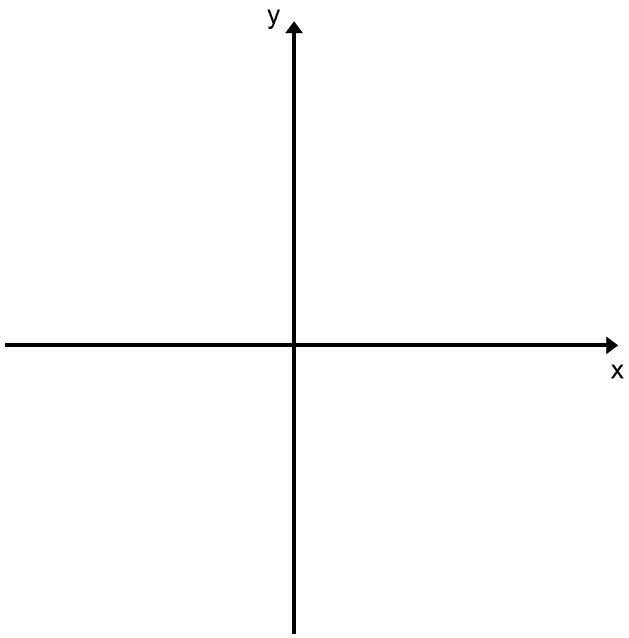
Name_____FA/SA Polynomial Behavior & GC Usage ALPHA Hour_____

$$f(x) = -2x^4 + 10x^3 + 16x^2 - 24x$$

LABEL the SKETCH with COORDINATES for ROOTS, Y intercept, and EXTREMES



- State a viewing window that will allow you to see all important features of this function.

  x min _____ x max _____

  y min _____ y max _____

- State the range using bracket notation.

- State any GLOBAL Extreme(s) as a point

- State the local extremes of this polynomial as coordinates

Since you are dealing with a quartic polynomial and they are very difficult to deal with for many reasons, your mathematics teacher felt that giving you two of the roots of this polynomial would be helpful in allowing to do some restructiing of the factorable quartic polynomial .

- Given that x = 1 is a root of this quartic polynomial, use synthetic division to factor this quartic polynomial

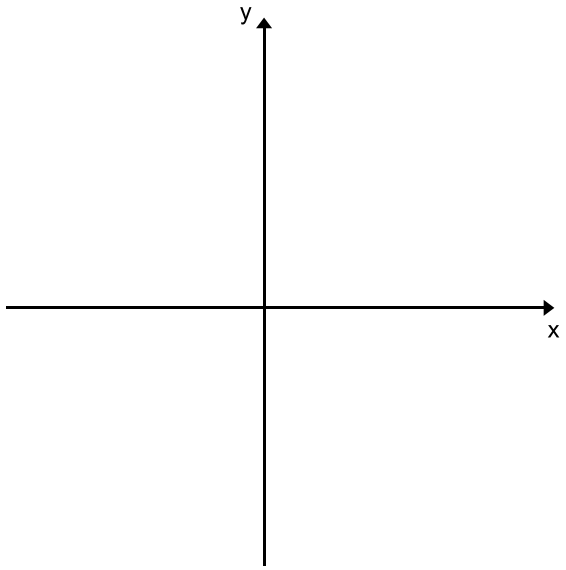
- Given that x = -2 is a root of this quartic polynomial, use synthetic division to factor this quartic polynomial

- Given that both x = 1 and x = -2 are roots of this quartic polynomial, use synthetic division to factor this quartic polynomial COMPLETELY

EC 1: If you are signed up for AP Central by the end of today's GREEN WHITE Game you will receive an extra credit point!

$$f(x) = -2x^4 + 10x^3 + 16x^2 - 24x$$

Sketch on this graph ONLY the positive portion of f(x) labeling the important points within that domain x values that generate positive f(x) values.

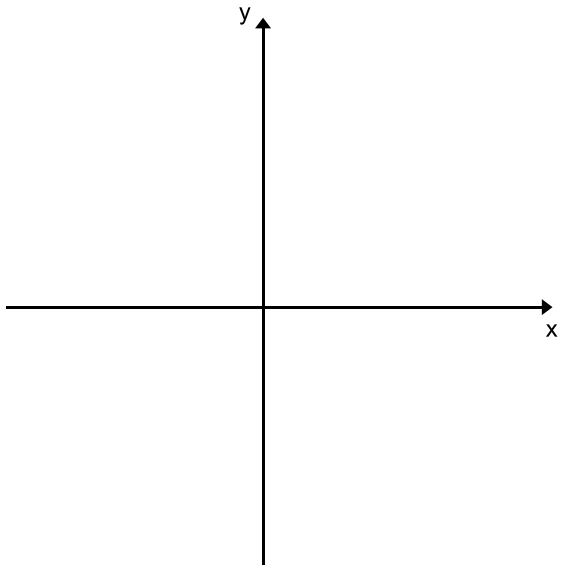


- BE careful and use set notation to state the x values that guarantee that for function values are positive.

Note: [,] , (,] (,) and [,) are brackets that can be used to describe the behavior of f(x) in terms of x

- BE careful and use inequalities to state the x values that guarantee that for function values are negative.

Sketch on this graph ONLY the increasing values of f(x) labeling the important points within that domain x values that generate increasing f(x) values.



- BE careful and use set notation to state the x values that guarantee that for function values are decreasing.

Note: [,] , (,] (,) and [,) are brackets that can be used to describe the behavior of f(x) in terms of x

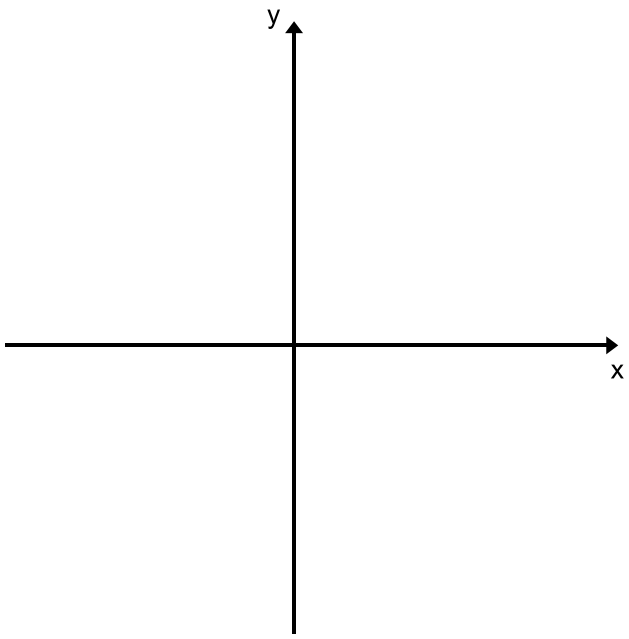
- Repeat the above task using inequalities and compound inequalities

EC 2: What is your favorite part of fall and why?

Name_____FA/SA Polynomial Behavior & GC Usage BETA Hour_____

$$f(x) = 4x^4 + 40x^3 + 28x^2 - 72x$$

LABEL the SKETCH with COORDINATES for ROOTS, Y intercept, and EXTREMES



- State a viewing window that will allow you to see all important features of this function.

  x min _____ x max _____

  y min _____ y max _____

- State the range using bracket notation.

- State any GLOBAL Extreme(s) as a point

- State the local extremes of this polynomial as coordinates

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- Given that x = 1 is a root of this quartic polynomial, use synthetic division to factor this quartic polynomial

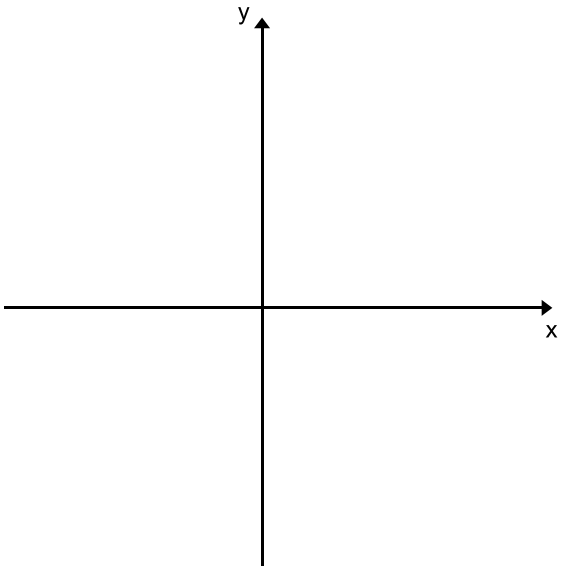
- Given that x = -2 is a root of this quartic polynomial, use synthetic division to factor this quartic polynomial

- Given that both x = 1 and x = -2 are roots of this quartic polynomial, use synthetic division to factor this quartic polynomial COMPLETELY

EC 1: If you are signed up for AP Central by the end of today's GREEN WHITE Game you will receive an extra credit point!

$$f(x) = 4x^4 + 40x^3 + 28x^2 - 72x$$

Sketch on this graph ONLY the negative portion of f(x) labeling the important points within that domain x values that generate negative f(x) values.

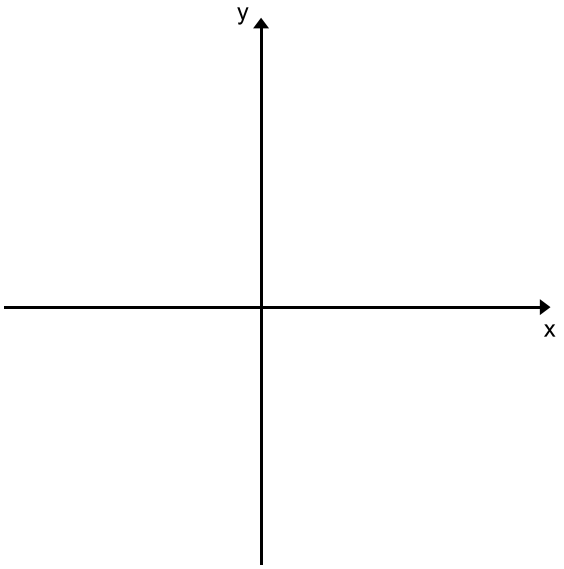


- BE careful and use set notation to state the x values that guarantee that for function values are positive.

Note: [,] , (,] (,) and [,) are brackets that can be used to describe the behavior of f(x) in terms of x

- BE careful and use inequalities to state the x values that guarantee that for function values are negative.

Sketch on this graph ONLY the increasing values of f(x) labeling the important points within that domain x values that generate increasing f(x) values.



- BE careful and use set notation to state the x values that guarantee that for function values are decreasing.

Note: [,] , (,] (,) and [,) are brackets that can be used to describe the behavior of f(x) in terms of x

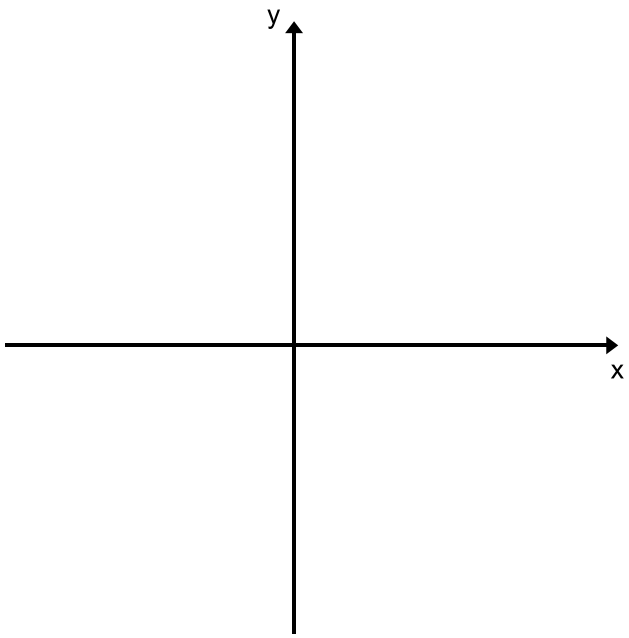
- BE careful and use inequalities to state the x values that guarantee that for function values are increasing.

EC 2: What is your favorite part of fall and why?

Name_____FA/SA Polynomial Behavior & GC Usage GAMMA Hour_____

$$f(x) = -3x^4 - 18x^3 - 9x^2 + 30x$$

LABEL the SKETCH with COORDINATES for ROOTS, Y intercept, and EXTREMES



- State a viewing window that will allow you to see all important features of this function.

  x min _____ x max _____

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- State the range using bracket notation.

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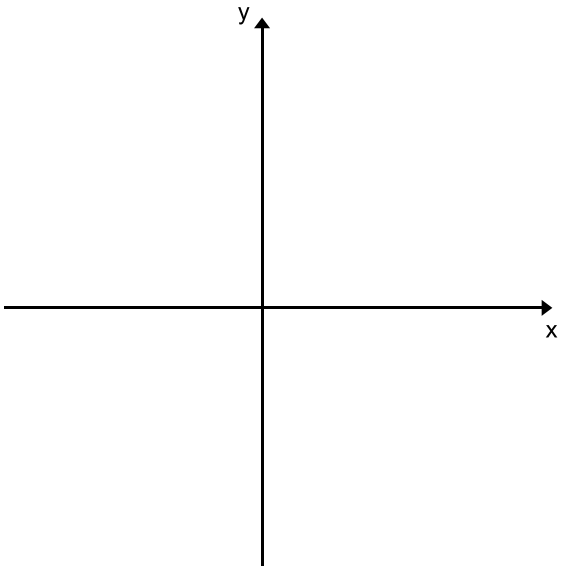
- Given that both x = 1 and x = -2 are roots of this quartic polynomial, use synthetic division to factor this quartic polynomial COMPLETELY

EC 1: If you are signed up for AP Central by the end of today's GREEN WHITE Game you will receive an extra credit point!

$$f(x) = -3x^4 - 12x^3 - 21x^2 + 30x$$

Sketch on this graph ONLY the negative portion of f(x) labeling the important points within that domain x values that generate negative f(x) values.



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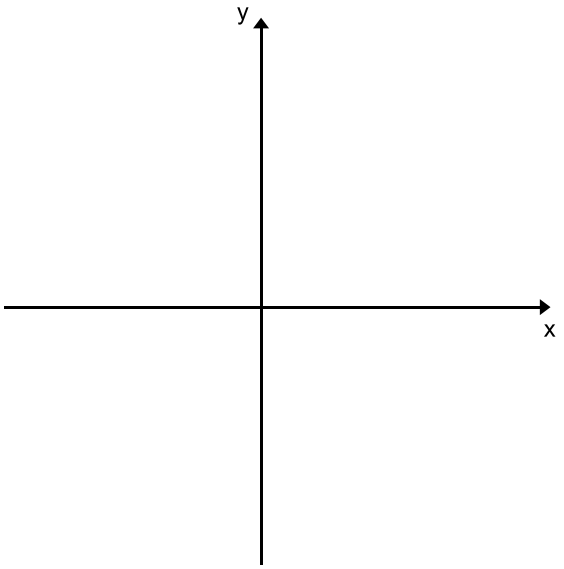
Sketch on this graph ONLY the decreasing values of f(x) labeling the important points within that domain x values that generate decreasing f(x) values.



- BE careful and use set notation to state the x values that guarantee that for function values are increasing.

Note: [,] , (,] (,) and [,) are brackets that can be used to describe the behavior of f(x) in terms of x

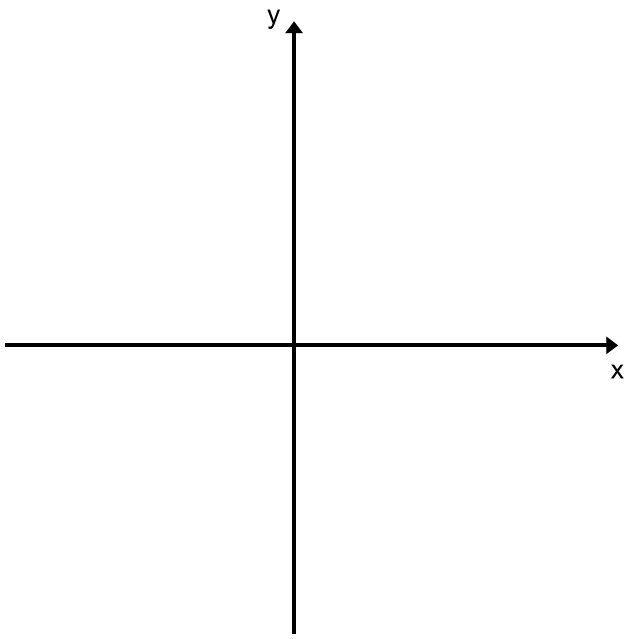
- BE careful and use inequalities to state the x values that guarantee that for function values are increasing.

EC 2: What is your favorite part of fall and why?

Name_____FA/SA Polynomial Behavior & GC Usage DELTA Hour_____

$$f(x) = 5x^4 + 40x^3 + 25x^2 - 70x$$

LABEL the SKETCH with COORDINATES for ROOTS, Y intercept, and EXTREMES



- State a viewing window that will allow you to see all important features of this function.

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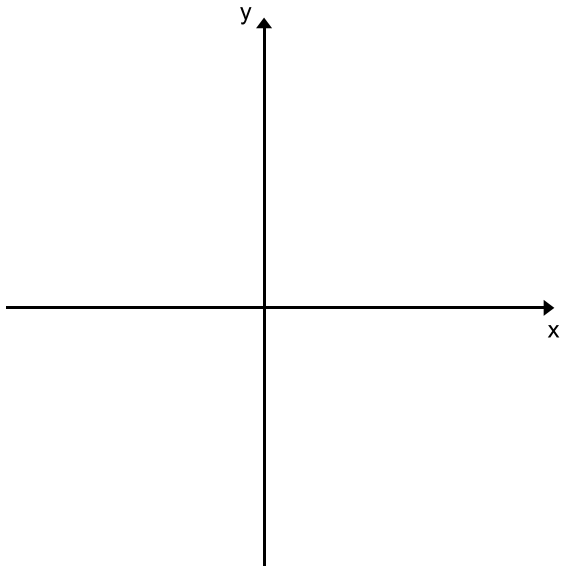
- Given that both x = 1 and x = -2 are roots of this quartic polynomial, use synthetic division to factor this quartic polynomial COMPLETELY

EC 1: If you are signed up for AP Central by the end of today's GREEN WHITE Game you will receive an extra credit point!

$$f(x) = 5x^4 + 40x^3 + 25x^2 - 70x$$

Sketch on this graph ONLY the positive portion of f(x) labeling the important points within that domain x values that generate positive f(x) values.



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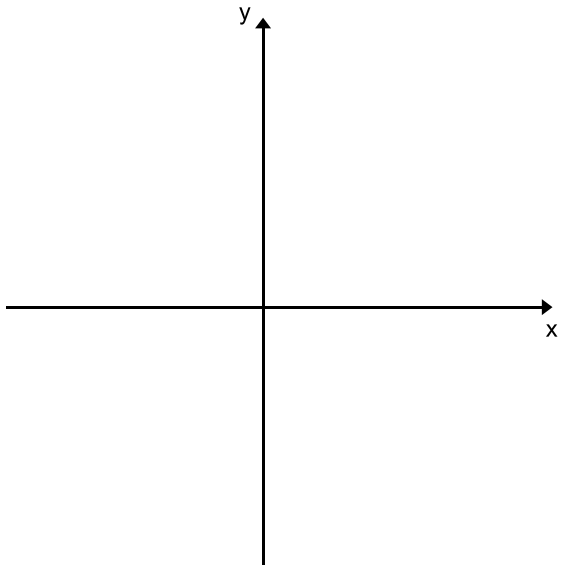

- BE careful and use set notation to state the x values that guarantee that for function values are increasing.

Note: [,] , (,] (,) and [,) are brackets that can be used to describe the behavior of f(x) in terms of x

- BE careful and use inequalities to state the x values that guarantee that for function values are increasing.

EC 2: What is your favorite part of fall and why?