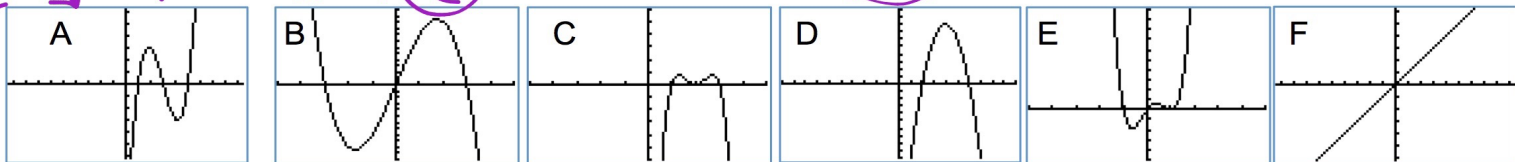


7.4 - Graphing Polynomial Functions 4

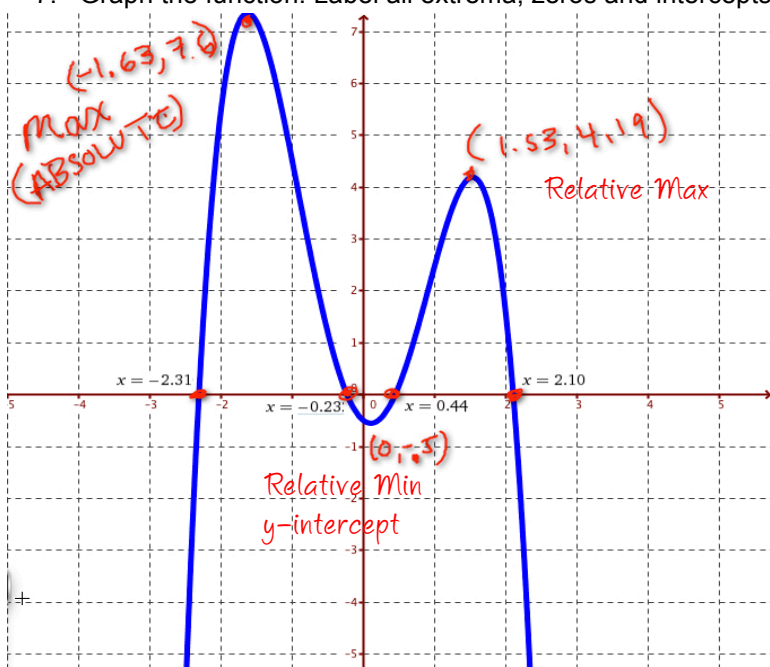
Practice 7.4

For each of the following, use the end behavior and x-intercepts to match the equation to its graph.

1. $f(x) = x$ **F** 2. $f(x) = (x-1)(x^2-3)(x-5)$ **A** 3. $f(x) = -x^3 + 9x$ **B**
 4. $f(x) = -3(x-1)(x-2)^2(x-3)$ **C** 5. $f(x) = -2x^2 + 16x - 24$ **D** 6. $f(x) = 3x^4 - 3x^3 - 3x^2 + 3x$ **E**



7. Graph the function. Label all extrema, zeros and intercepts. Round to the nearest hundredth, if necessary.



$$f(x) = -x^4 + 5x^2 - x - \frac{1}{2}$$

Roots:

$$x = -2.31066$$

$$x = -0.232543$$

$$x = 0.443087$$

$$x = 2.10011$$

X	Y1
0	-0.5
1	4.19
2	5.5
3	39.5

As $x \rightarrow -\infty, f(x) \rightarrow -\infty$
 As $x \rightarrow \infty, f(x) \rightarrow -\infty$

8. Graph the function. Label all extrema, zeros and intercepts. Round to the nearest hundredth, if necessary.

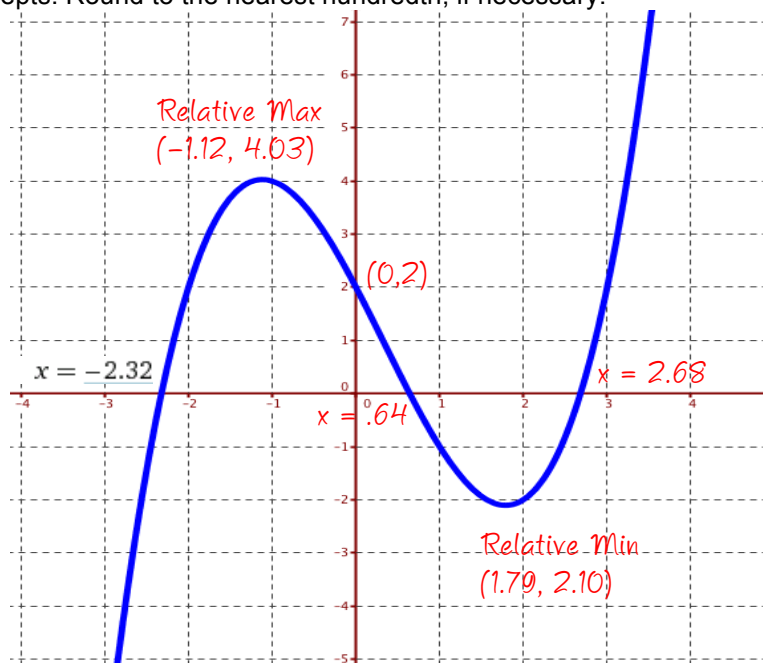
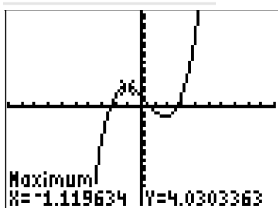
$$f(x) = \frac{1}{2}x^3 - \frac{1}{2}x^2 - 3x + 2$$

Roots:

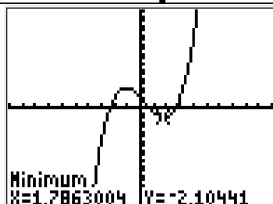
$$x = -2.3234$$

$$x = 0.642074$$

$$x = 2.68133$$

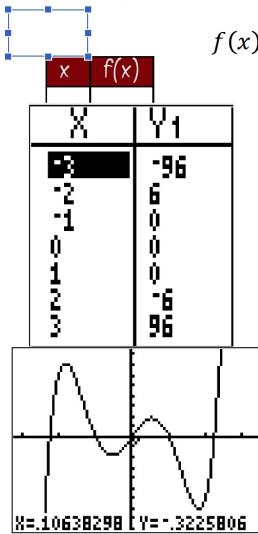


As $x \rightarrow -\infty, f(x) \rightarrow -\infty$
 As $x \rightarrow \infty, f(x) \rightarrow \infty$



9. Graph the function. Label all extrema, zeros and intercepts. Round to the nearest hundredth, if necessary.

$$f(x) = x^5 - 6x^3 + 5x$$



Roots:

$x = -1$
$x = 0$
$x = 1$
$x = -\sqrt{5} \approx -2.24$
$x = \sqrt{5} \approx 2.24$

y-int (0,0)

Zoom-Box!!!!

As $x \rightarrow -\infty, f(x) \rightarrow -\infty$
 As $x \rightarrow \infty, f(x) \rightarrow \infty$

intercepts. Round to the nearest hundredth, if necessary.

