

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

1. $f(x) = 9 - 4x^2$

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

3. $f(x) = -5$

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

5. $f(x) = x^4 - 3x^3$

6. $f(x) = x^4 - 6x^3 + 8x^2$

1. _____

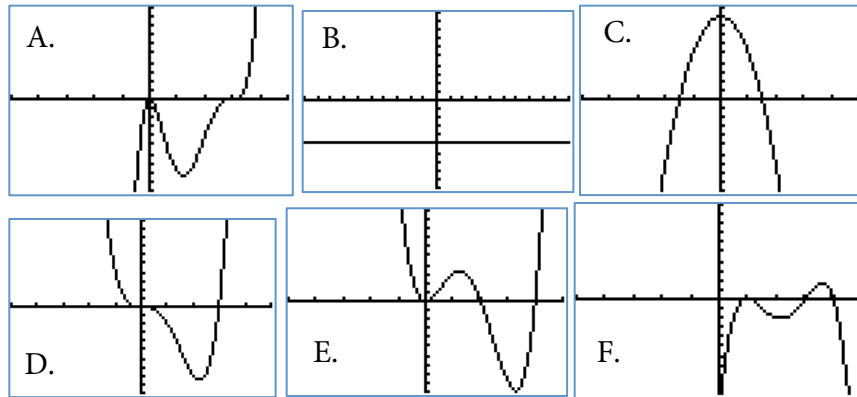
4. _____

2. _____

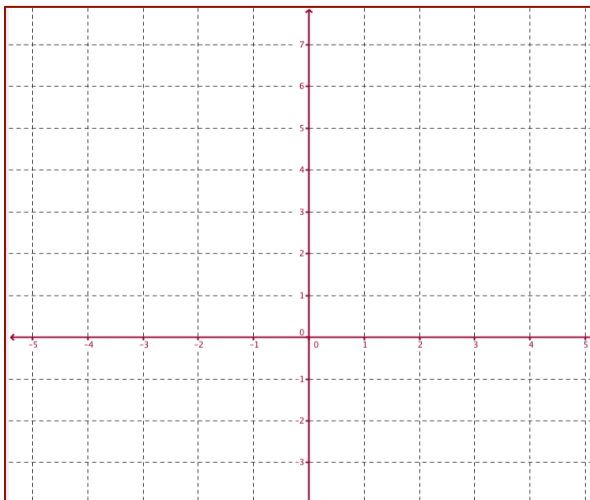
5. _____

3. _____

6. _____



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



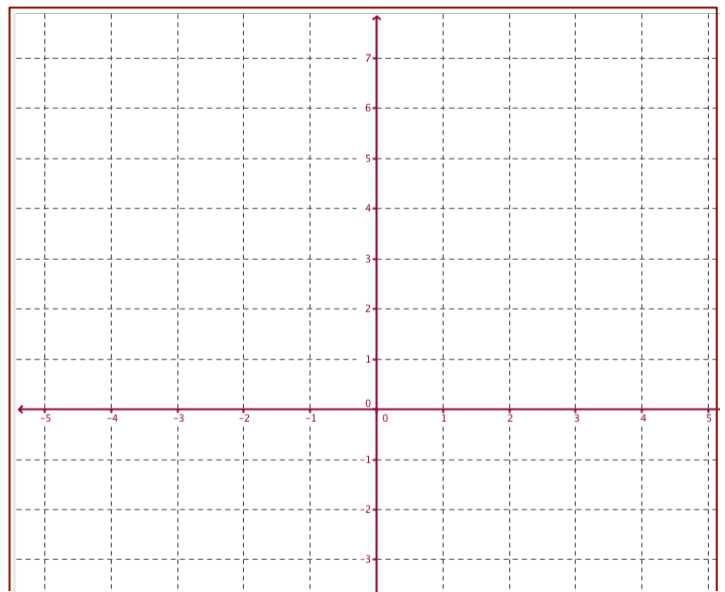
$$f(x) = x^3 + 2x^2 - 3x$$

x	f(x)

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

$$f(x) = -x^4 + 4x^2 - 1$$

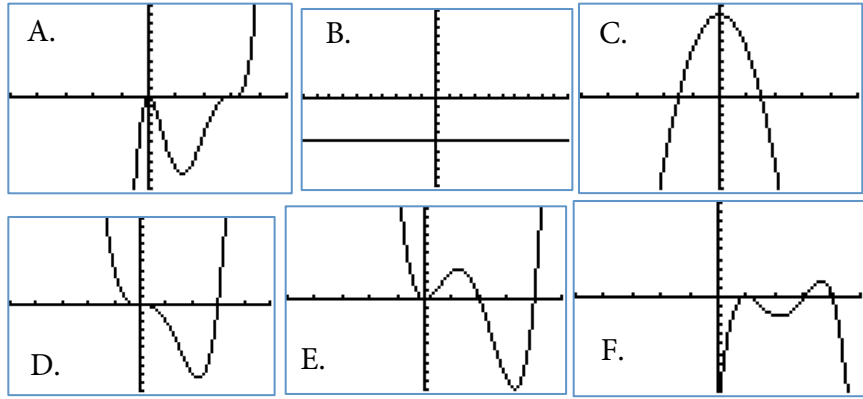
x	f(x)



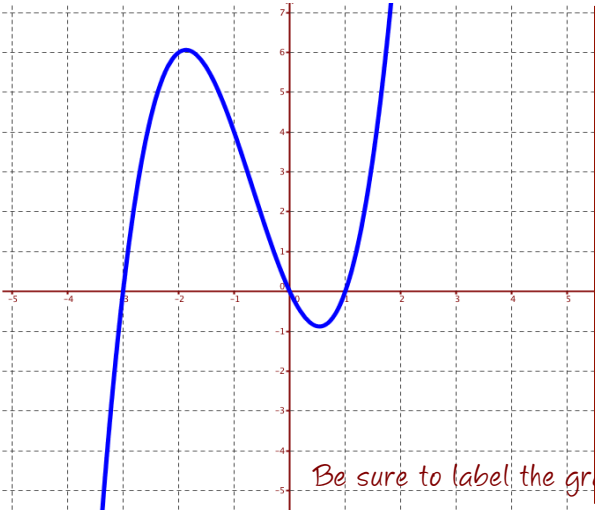
For each of the following, use the end behavior and x-intercepts to match the equation to its graph.

- 1. $f(x) = 9 - 4x^2$
- 2. $f(x) = -(x - 4)(x - 3)(x - 1)^2$
- 3. $f(x) = -5$
- 4. $f(x) = x^2(x - 3)^3$
- 5. $f(x) = x^4 - 3x^3$
- 6. $f(x) = x^4 - 6x^3 + 8x^2$

- 1. C
- 2. F
- 3. B
- 4. A
- 5. D
- 6. E



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



$$f(x) = x^3 + 2x^2 - 3x$$

Zeros:

$$x = -3, x = 0, x = 1$$

y-int: (0,0)

Relative Max: (-1.87, 6.06)

Relative Minimum: (0.54, -0.88)

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

As $x \rightarrow +\infty$, $F(x) \rightarrow \infty$

X	Y1
-3	0
-2	6
-1	4
0	0
1	0
2	10
3	36

Be sure to label the graph!

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

$$f(x) = -x^4 + 4x^2 - 1$$

Zeros:

$$x = -0.52 \quad x = 0.52$$

$$x = -1.93 \quad x = 1.93$$

y-int (0, -1) (Rel Minimum)

(Absolute) Maximum:

$$(-1.41, 3) \quad (1.41, 3)$$

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

As $x \rightarrow +\infty$, $F(x) \rightarrow -\infty$

BE Sure to Label the graph!!

X	Y1
-2	-46
-1	11
0	-1
1	11
2	-46

