

Describe the end behaviors for each function.

$$f(x) = x^3 - 4x^2 + 7$$

$$g(x) = x^4 - 4x^2 - x - 5$$

$$h(t) = t^5 - 4t^3 + 5t + 2$$

$$p(x) = -x^4 + 3x^3 - 5x + 2$$

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

$$f(x) = (x - 3)(x + 5)(x - 1)$$

$$D = 3$$

$$L.C. > 0$$

$$x \rightarrow \infty; y \rightarrow \infty$$

$$x \rightarrow -\infty; y \rightarrow -\infty$$

$$B) f(x) = (x - 3)(5 - 6x)(x - 1)$$

$$D = 3$$

$$L.C. < 0$$

$$x \rightarrow \infty; y \rightarrow -\infty$$

$$x \rightarrow -\infty; y \rightarrow \infty$$

$$(x-3)(x-3)(x+5)(x-1)$$

C) $f(x) = (x-3)^2(x+5)(x-1)$

Degree = 4

L.C. > 0

$x \rightarrow -\infty, y \rightarrow \infty$

$x \rightarrow \infty, y \rightarrow \infty$

$x \rightarrow \pm\infty, y \rightarrow \infty$

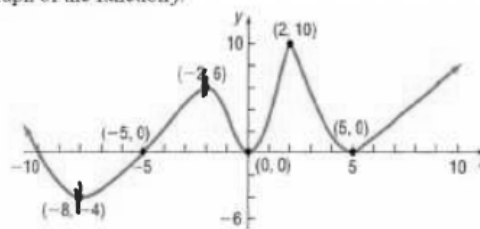
D) $f(x) = (x-3)(5-6x)^3$

Degree = 4

L.C. < 0

$x \rightarrow \pm\infty; y \rightarrow -\infty$

In problems 1-8, use the given graph of the function f .



1	Is f increasing on the interval $(-8, -2)$?	Yes
2	Is f increasing on the interval $(2, 10)$?	No
3	List the interval(s) on which f is increasing. Justify your answer.	
4	List the interval(s) on which f is decreasing. Justify your answer.	
5	List the value(s) of x at which f has a local maximum. Justify your answer.	
6	List the value(s) of x at which f has a local minimum. Justify your answer.	
7	Find the x -intercepts.	
8	Find the y -intercepts.	

3) $(-8, -2)$ $(0, 2)$ $(5, \infty)$

4) $(-\infty, -8)$ $(-2, 0)$ $(2, 5)$

5) Local max $x = -2, 2$

6) Local min
 $x = -8, 0, 5$

7) $x = -10, -5, 0, 5$

8) y -inter $(0, 0)$