1. $y = -7x^4 + 3x^3 - 2x^2 + x - 9$

2. $y = 5x^3 + 2x^2 + x + 8$

3. $y = -3x^2 + 4x^4 - 5x^3 - 7x^5 - 2x + 1$

4. $y = 9x^2 - 3x^3 + 2x - 1 + 4x^6$

---

end behavior

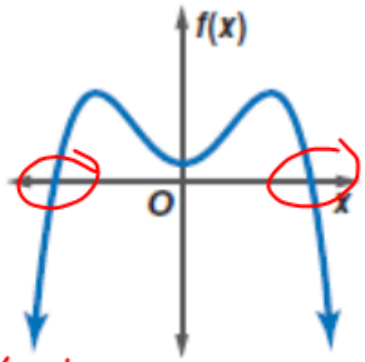
$f(x) \longrightarrow$ ____ (approaches), as $x \longrightarrow$ ____ (approaches)

EXAMPLE Graphs of Polynomial Functions

4 For each graph,

- describe the end behavior,
- determine whether it represents an odd-degree or an even-degree polynomial function, and
- state the number of real zeros.

a.



end behavior

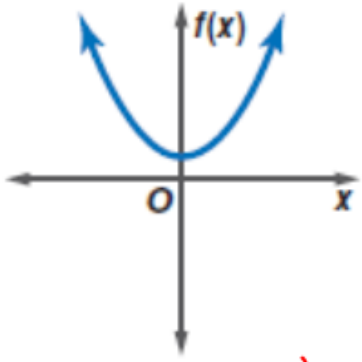
$f(x) \to -\infty$, as $x \to \infty$ (right side/arrow)

$f(x) \to -\infty$, as $x \to -\infty$ (left side/arrow)

even

2

b.



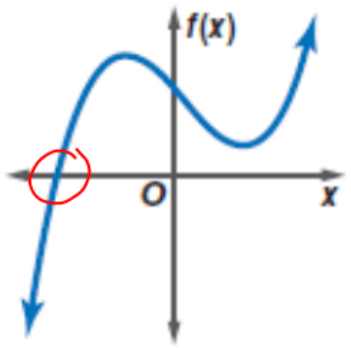
$f(x) \to +\infty$, as $x \to \infty$

$f(x) \to \infty$, as $x \to -\infty$

even

0

4A.



$f(x) \to \infty$, as $x \to \infty$

$f(x) \to -\infty$, as $x \to -\infty$

odd

1

p. 336-338			
12-23, 28-32, 34-35, 49-50, 57-58