

Name: _____ Date: _____ Period: _____

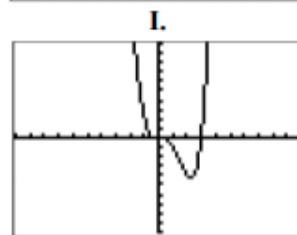
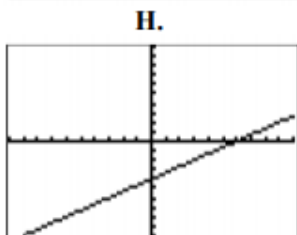
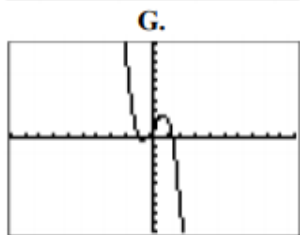
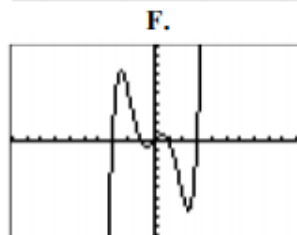
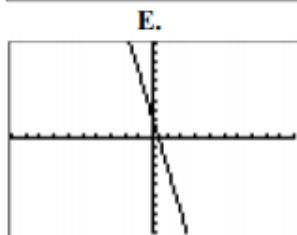
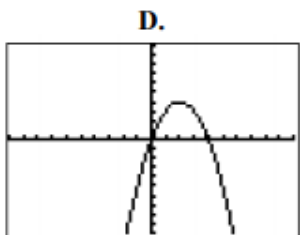
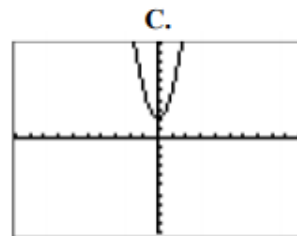
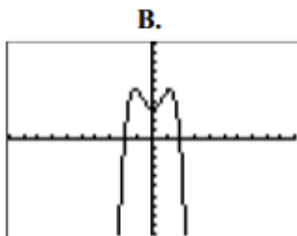
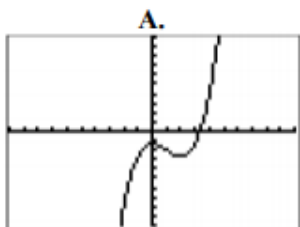
End Behavior

For the functions below, match them to their graphs using a graphing calculator. Then describe the end behavior of each graph.

Remember to start off:

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

As $x \rightarrow \infty$, $y \rightarrow$ _____



___ 7] $y = -x^2 + 4x$

___ 8] $y = -2x^3 + 3x + 1$

___ 9] $y = \frac{1}{3}x^3 - x^2 - \frac{4}{3}$

___ 10] $y = -x^4 + 3x^2 + 3$

___ 11] $y = 3x^2 + 2$

___ 12] $y = \frac{2}{3}x - 4$

___ 13] $y = \frac{1}{2}x^4 - \frac{3}{2}x^3$

___ 14] $y = \frac{1}{5}x^5 - 2x^3 + \frac{9}{5}x$

___ 15] $y = -5x + 2$

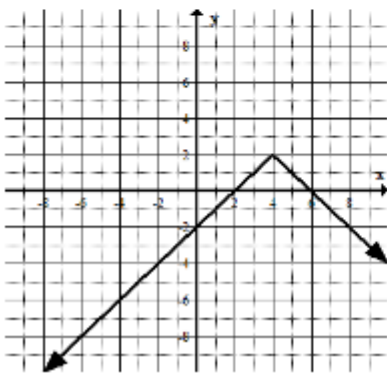
| | | |
|-----|-----|-----|
| 7] | 8] | 9] |
| 10] | 11] | 12] |
| 13] | 14] | 15] |

2.3 End Behavior & Average Rate of Change Homework

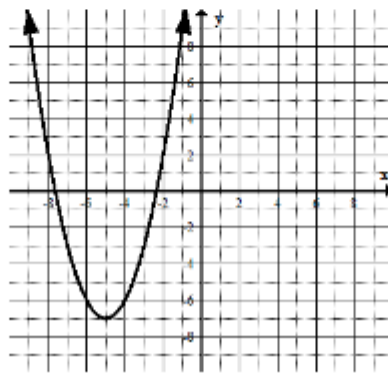
Determine the end behavior for each function below. Place the letter(s) of the appropriate statement(s) on the line provided.

- A. As x approaches ∞ , y approaches ∞
- B. As x approaches $-\infty$, y approaches ∞
- C. As x approaches ∞ , y approaches $-\infty$
- D. As x approaches $-\infty$, y approaches $-\infty$

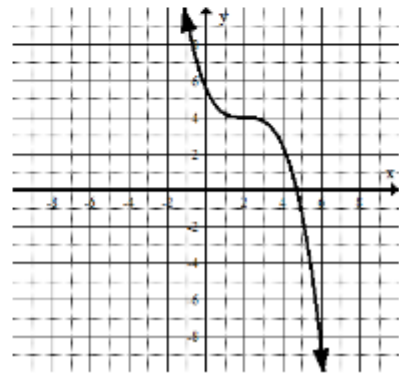
1. _____



2. _____



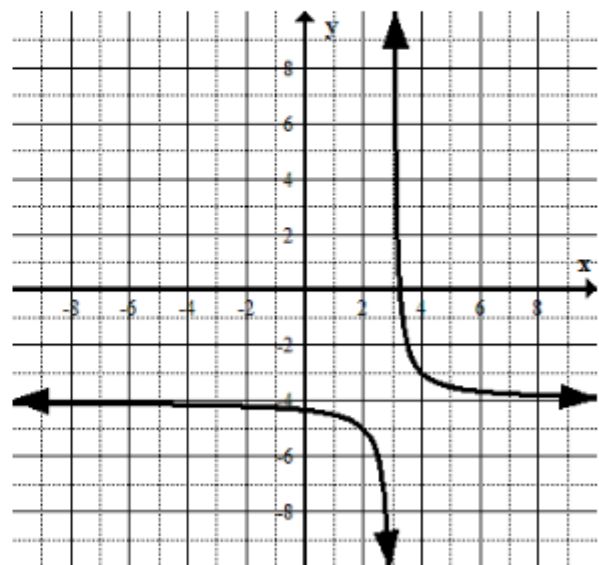
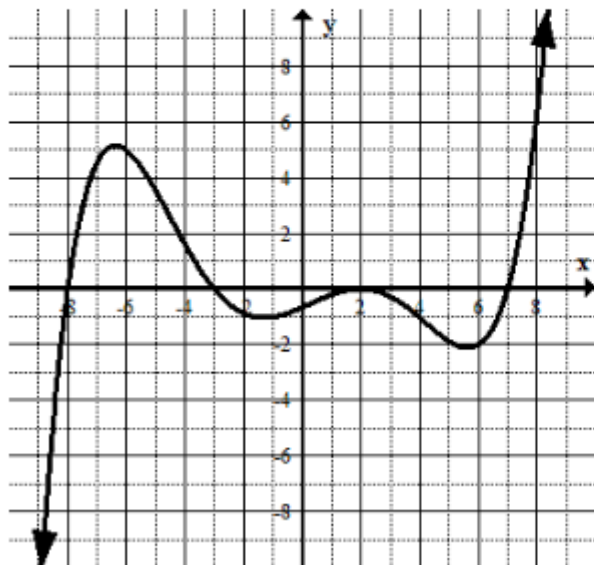
3. _____



Give the end behavior for each function by filling in each blank.

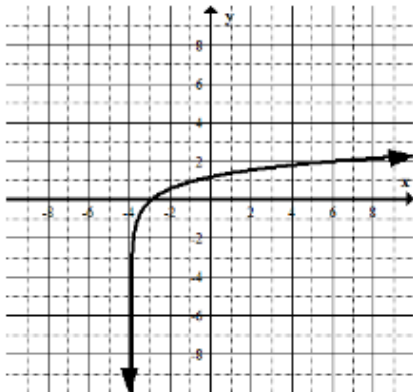
4. As x approaches _____, y approaches _____
 As x approaches _____, y approaches _____

5. As x approaches _____, y approaches _____
 As x approaches _____, y approaches _____

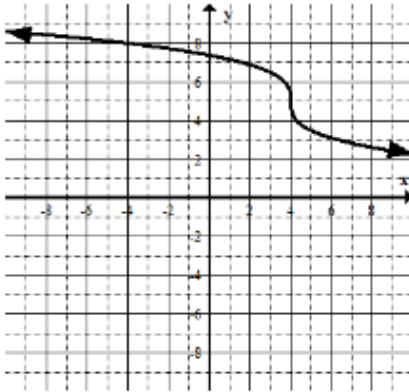


Give the end behavior for each function.

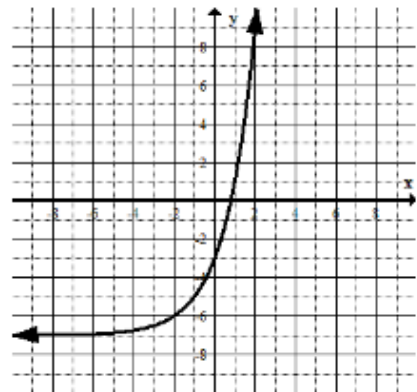
6.



7.



8.



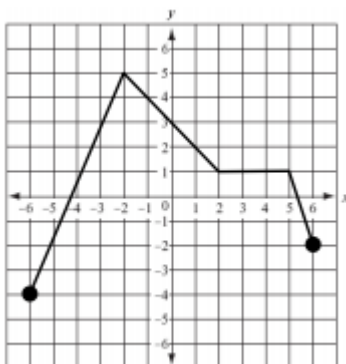
Average Rate of Change

9. Using the table below.

| Days (x) | Amount of Bacteria f(x) |
|----------|-------------------------|
| 1 | 19 |
| 2 | 30 |
| 3 | 48 |
| 4 | 76 |
| 5 | 121 |
| 6 | 192 |

Find the average rate of change from day 2 to day 5.

10.



Find the average rate of change from $x = -1$ to $x = 3$.

11. Find the average rate of change of $f(x) = 2x - 3$ from $x = 2$ to $x = 4$.

