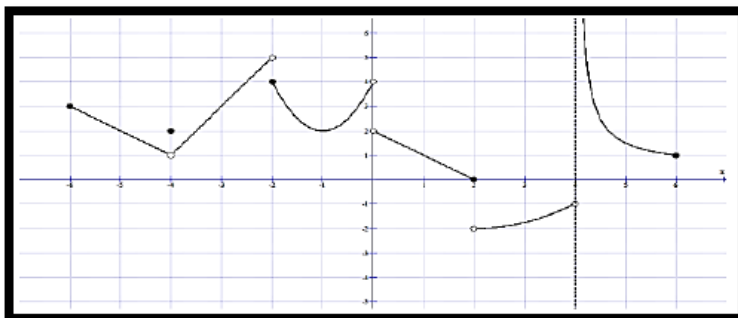


Graphs and Limits ... Set 1

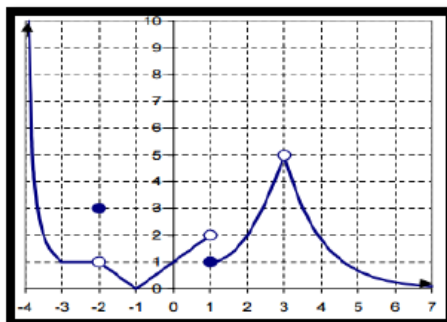
Graphs from Limit and Limits from Graphs

1. Use the graph to evaluate the limits below



- | | | | |
|------------|-------------------------------------|-------------------------------------|-----------------------------------|
| a. $f(-4)$ | b. $\lim_{x \rightarrow -4^-} f(x)$ | c. $\lim_{x \rightarrow -4^+} f(x)$ | d. $\lim_{x \rightarrow -4} f(x)$ |
| e. $f(-2)$ | f. $\lim_{x \rightarrow -2^-} f(x)$ | g. $\lim_{x \rightarrow -2^+} f(x)$ | h. $\lim_{x \rightarrow -2} f(x)$ |
| i. $f(0)$ | j. $\lim_{x \rightarrow 0^-} f(x)$ | k. $\lim_{x \rightarrow 0^+} f(x)$ | l. $\lim_{x \rightarrow 0} f(x)$ |
| m. $f(2)$ | n. $\lim_{x \rightarrow 2^-} f(x)$ | o. $\lim_{x \rightarrow 2^+} f(x)$ | p. $\lim_{x \rightarrow 2} f(x)$ |
| q. $f(4)$ | r. $\lim_{x \rightarrow 4^-} f(x)$ | s. $\lim_{x \rightarrow 4^+} f(x)$ | t. $\lim_{x \rightarrow 4} f(x)$ |

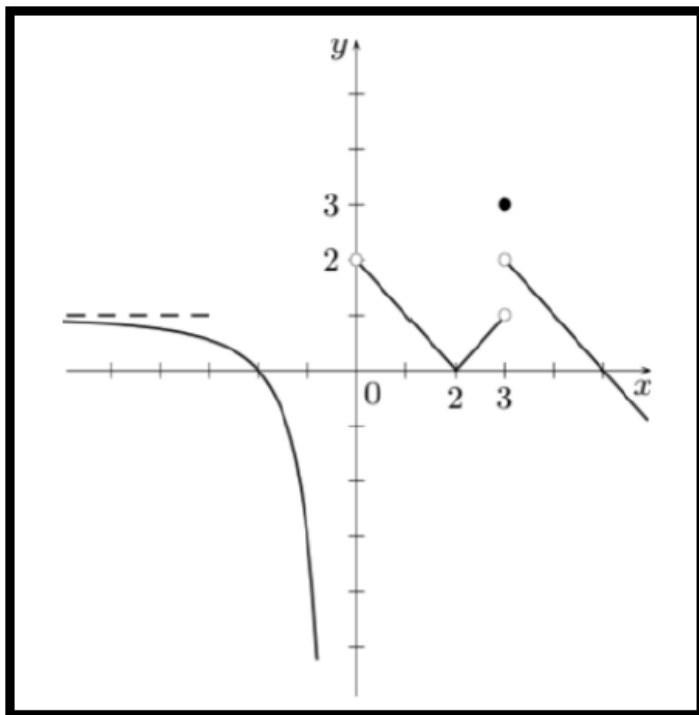
2. Use the graph to evaluate the expressions below.



- | | | |
|-------------------------------------|-------------------------------------|---------------------------------------|
| a. $f(-2)$ | b. $\lim_{x \rightarrow -2^+} f(x)$ | c. $\lim_{x \rightarrow -2} f(x)$ |
| d. $\lim_{x \rightarrow -1^+} f(x)$ | e. $\lim_{x \rightarrow -1^-} f(x)$ | f. $\lim_{x \rightarrow -1} f(x)$ |
| g. $\lim_{x \rightarrow 1^+} f(x)$ | h. $\lim_{x \rightarrow 1^-} f(x)$ | i. $\lim_{x \rightarrow 1} f(x)$ |
| j. $f(3)$ | k. $\lim_{x \rightarrow 3^+} f(x)$ | l. $\lim_{x \rightarrow 3^-} f(x)$ |
| m. $\lim_{x \rightarrow 3} f(x)$ | n. $\lim_{x \rightarrow -4^+} f(x)$ | o. $\lim_{x \rightarrow \infty} f(x)$ |
| p. $f(1)$ | q. $\lim_{x \rightarrow -3} f(x)$ | r. $f(-4)$ |

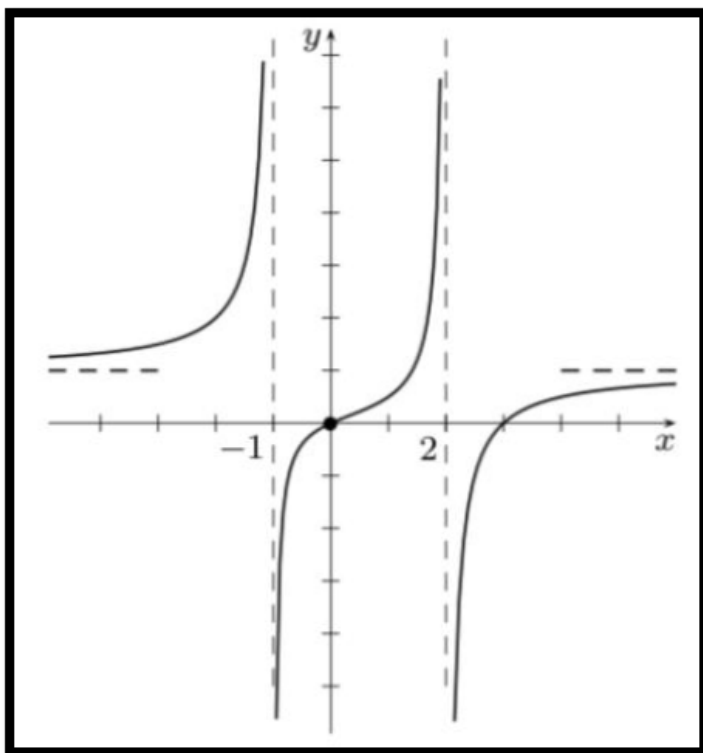
Graphs and Limits ... Set 1

3. Use the graph of the function $f(x)$ to answer each question. Use ∞ , $-\infty$, or *DNE* where appropriate.



- $f(0) =$
- $f(2) =$
- $f(3) =$
- $\lim_{x \rightarrow 0^-} f(x) =$
- $\lim_{x \rightarrow 0} f(x) =$
- $\lim_{x \rightarrow 3^+} f(x) =$
- $\lim_{x \rightarrow 3} f(x) =$
- $\lim_{x \rightarrow -\infty} f(x) =$

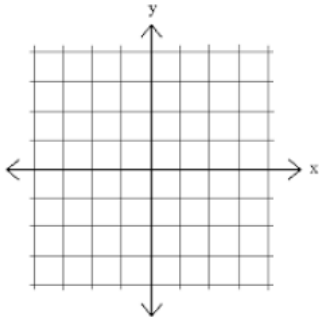
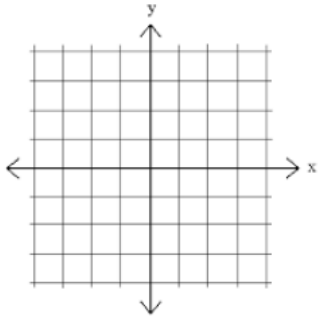
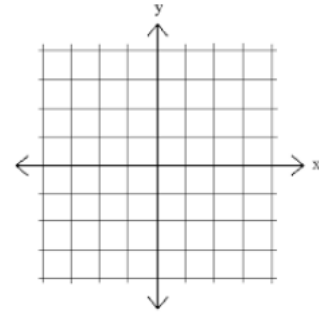
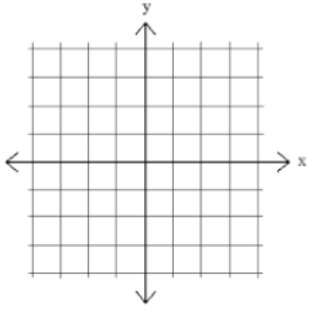
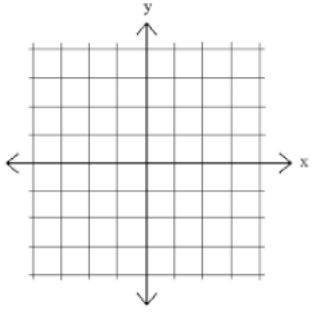
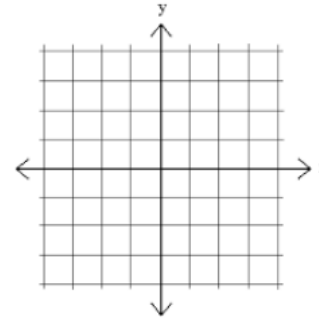
4. Use the graph of the function $f(x)$ to answer each question. Use ∞ , $-\infty$, or *DNE* where appropriate.



- $f(0) =$
- $f(2) =$
- $f(3) =$
- $\lim_{x \rightarrow -1} f(x) =$
- $\lim_{x \rightarrow 0} f(x) =$
- $\lim_{x \rightarrow 2^+} f(x) =$
- $\lim_{x \rightarrow \infty} f(x) =$

Graphs and Limits ... Set 1

Draw a graph of a function with the give limits.

| | | |
|--|--|---|
| <p>5. $\lim_{x \rightarrow \infty} f(x) = -3$</p> <p>$\lim_{x \rightarrow 1} f(x) = -2$</p> <p>$\lim_{x \rightarrow -\infty} f(x) = 2$</p> <p>$f(1) = 2$</p> <div style="text-align: center; margin-top: 20px;">  </div> | <p>6. $\lim_{x \rightarrow \infty} f(x) = 2$</p> <p>$\lim_{x \rightarrow -2^+} f(x) = 3$</p> <p>$\lim_{x \rightarrow -2^-} f(x) = \infty$</p> <p>$\lim_{x \rightarrow -\infty} f(x) = 0$</p> <div style="text-align: center; margin-top: 20px;">  </div> | <p>7. $\lim_{x \rightarrow \infty} f(x) = \infty$</p> <p>$\lim_{x \rightarrow 0^+} f(x) = \infty$</p> <p>$\lim_{x \rightarrow 0^-} f(x) = -\infty$</p> <p>$\lim_{x \rightarrow -\infty} f(x) = 1$</p> <div style="text-align: center; margin-top: 20px;">  </div> |
| <p>8. $\lim_{x \rightarrow -\infty} f(x) = -\infty$</p> <p>$\lim_{x \rightarrow -1} f(x) = 1$</p> <p>$\lim_{x \rightarrow 0} f(x) = \infty$</p> <p>$\lim_{x \rightarrow 2} f(x) = 1$</p> <p>$f(2) = 2$</p> <p>$\lim_{x \rightarrow \infty} f(x) = \infty$</p> <div style="text-align: center; margin-top: 20px;">  </div> | <p>9. $\lim_{x \rightarrow -\infty} f(x) = -\infty$</p> <p>$\lim_{x \rightarrow -2^-} f(x) = \infty$</p> <p>$\lim_{x \rightarrow -2^+} f(x) = -\infty$</p> <p>$\lim_{x \rightarrow 0} f(x) = 2$</p> <p>$\lim_{x \rightarrow 2^-} f(x) = -\infty$</p> <p>$\lim_{x \rightarrow 2^+} f(x) = \infty$</p> <p>$\lim_{x \rightarrow \infty} f(x) = -\infty$</p> <div style="text-align: center; margin-top: 20px;">  </div> | <p>10. $\lim_{x \rightarrow -\infty} f(x) = -2$</p> <p>$\lim_{x \rightarrow 0^-} f(x) = 3$</p> <p>$\lim_{x \rightarrow 0^+} f(x) = -1$</p> <p>$\lim_{x \rightarrow 2} f(x) = 0$</p> <p>$\lim_{x \rightarrow \infty} f(x) = 2$</p> <p>$f(2) = -1$</p> <div style="text-align: center; margin-top: 20px;">  </div> |