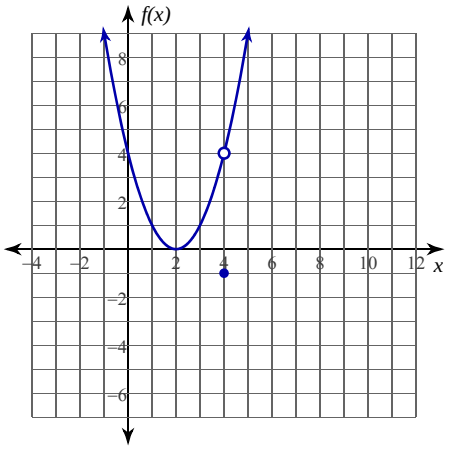
Candle Center - Infinite Precalculus Name_____

Evaluating Limits

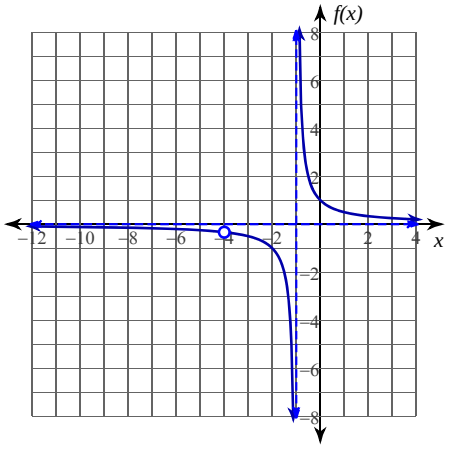
Date_____ Period____

Evaluate each limit.

1) $\lim\limits_{x\to 4} f(x),\ f(x) = \begin{cases} x^2 - 4x + 4, & x \neq 4 \\ -1, & x = 4 \end{cases}$



2) $\lim\limits_{x\to -4} \dfrac{x+4}{x^2+5x+4}$



3) $\lim\limits_{x\to -1} f(x),\ f(x) = \begin{cases} -1, & x \neq -1 \\ 0, & x = -1 \end{cases}$

4) $\lim\limits_{x\to 5} f(x),\ f(x) = \begin{cases} -x^2 + 10x - 22, & x \neq 5 \\ 2, & x = 5 \end{cases}$

5) $\lim\limits_{x\to 2} \dfrac{x^2-4}{x-2}$

6) $\lim\limits_{x\to -3} \dfrac{x+3}{x^2+5x+6}$

Critical thinking question:

7) Give an example of a limit of a rational function where the limit at 3 exists, but the function is undefined at 3.

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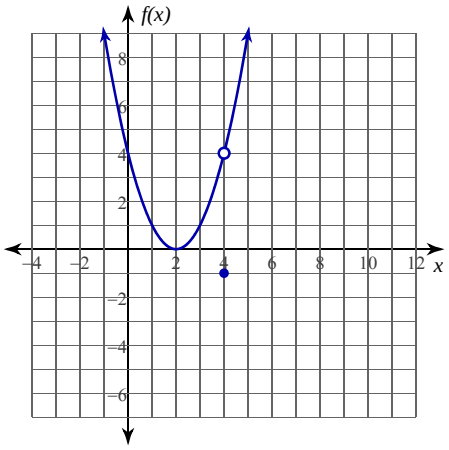

4

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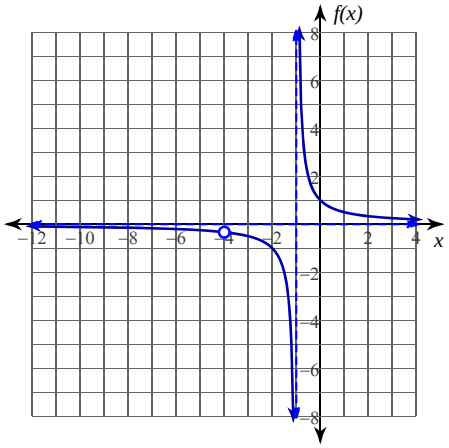

$-\dfrac{1}{3}$

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Critical thinking question:

7) Give an example of a limit of a rational function where the limit at 3 exists, but the function is undefined at 3.

Many answers. Ex: $\lim\limits_{x\to 3} \dfrac{x^2-9}{x-3}$