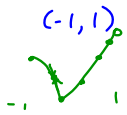
Questions on Homework

(38) h. $\lim_{x\to c} f(x)$



Sep 19-8:30 AM

(28) $\lim_{x\to 0} \frac{3\sin 4x}{\sin 3x}$

$\lim_{x\to 0} \frac{\sin x}{x} = 1$

$\frac{1}{3}\cdot\frac{4}{4}\cdot\frac{\sin 4x}{\frac{\sin 3x}{x}}$

(27) $\lim_{x\to 0} \frac{\sin^2 x}{x}$

$= \lim_{x\to 0} \frac{\sin x}{x}\cdot \sin x$

$= 0$

(24) $\lim_{x\to 0} 2\cdot\frac{\sin 2x}{2x}$

2

Sep 23-11:00 AM

2-2 Limits Involving Infinity

Learning Targets

- I can find the value of a limit involving infinity by looking at the graph of a funcon.
- I can calculate limits involving infinity algebraically.

Sep 12-10:30 AM

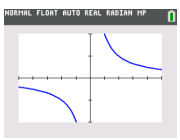
Limit Definition:

$\lim_{x\to c} f(x) = L$

This is read as "The limit of f of x as x approaches c equals L." The notation means that the values f(x) of the function f approach or equal L as the values of x approach (but do not equal) c.

Sep 19-8:22 AM

Find the limit.



1. $\lim_{x\to\infty} \frac{1}{x}$ = 0

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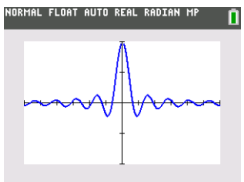
2. $\lim_{x\to\infty} \frac{\sin x}{x}$

= 0



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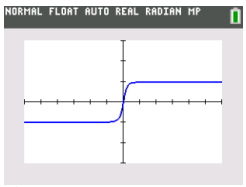
3. $\lim_{x\to\infty} \frac{x}{\sqrt{x^2+1}}$ $= 1$



$\lim_{x\to-\infty} \frac{x}{\sqrt{x^2+1}} = -1$

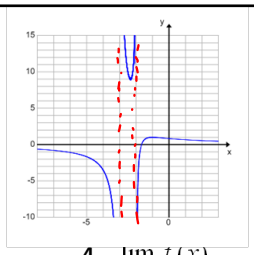
Sep 12-10:30 AM

$f(x) = \frac{3x+5}{x^2+5x+6}$ $(x+2)(x+3)$

1. $\lim_{x\to-2^-} f(x)$ ∞

2. $\lim_{x\to-2^+} f(x)$ $-\infty$

3. $\lim_{x\to-2} f(x)$ DNE



4. $\lim_{x\to\infty} f(x)$ 0

5. $\lim_{x\to-\infty} f(x)$ $\emptyset$

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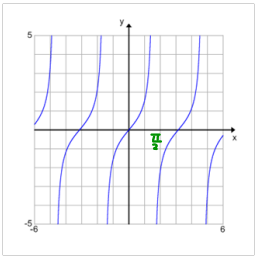
a. $\lim_{x\to\frac{\pi}{2}} \tan x$ DNE

b. $\lim_{x\to\frac{\pi}{2}^-} \tan x$ ∞

c. $\lim_{x\to\frac{\pi}{2}^+} \tan x$ $-\infty$

d. $\lim_{x\to\infty} \tan x$ DNE



Sep 12-10:30 AM

Find the limit.

$\lim_{x\to\infty} \frac{3x^4-2x^3+3x^2-5x+6}{3x^4} = 1$

Sep 12-10:30 AM

Homework:

p. 76 #1-8, 12-34, 53, 54, 56

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Sep 12-10:30 AM