

Lesson Objective: SWBAT review limits!

Kickoff- Evaluate the limits.

1) $\lim_{x \rightarrow 1} \frac{x-1}{x^2-1} = \frac{1-1}{1^2-1} = \frac{0}{0}$

$\frac{x-1}{(x-1)(x+1)} = \frac{1}{x+1} = \frac{1}{1+1} = \frac{1}{2}$

2) $\lim_{x \rightarrow 0} \frac{\frac{1}{x+2} - \frac{1}{2}}{x} = \frac{\frac{1}{0+2} - \frac{1}{2}}{0} = \frac{0}{0}$

$\frac{\frac{1}{2(x+2)} - \frac{1}{2(x+2)}}{\frac{x}{2(x+2)}} = \frac{\frac{2-x-2}{2(x+2)}}{\frac{x}{2(x+2)}} = \frac{2-x-2}{x} = \frac{-x}{x} = -1$

$\lim_{x \rightarrow 0} \frac{-1}{2(x+2)} = \frac{-1}{2(0+2)} = \frac{-1}{4}$

May 8-7:16 AM

Homework

① DNE ② DNE
 ③ 2 ④ $\frac{1}{4}$
 ⑤ $-\frac{3}{2}$ ⑥ $\frac{1}{2}$
 ⑦ 3 ⑧ $\frac{1}{2}$

⑨ $\frac{1}{2}$ ⑩ $\frac{1}{2}$
 ⑪ $\frac{1}{2}$ ⑫ $\frac{1}{2}$
 ⑬ $\frac{1}{2}$ ⑭ $\frac{1}{2}$
 ⑮ $\frac{1}{2}$ ⑯ $\frac{1}{2}$
 ⑰ $\frac{1}{2}$ ⑱ $\frac{1}{2}$
 ⑲ $\frac{1}{2}$ ⑳ $\frac{1}{2}$

① $\lim_{x \rightarrow 1} \frac{x-1}{x^2-1} = 0$

Polynomial over Rational or Irrational

$\lim_{x \rightarrow 0} \frac{2x^2}{3x} = \frac{0}{0}$

$\frac{2(1,000,000)^2}{3(1,000,000)} = \frac{2}{3}$

③ $\lim_{x \rightarrow 0} \frac{1}{x} = \infty$

④ $\lim_{x \rightarrow 0} \frac{1}{x^2} = \infty$

⑤ $\lim_{x \rightarrow 0} \frac{1}{x^3} = \infty$

⑥ $\lim_{x \rightarrow 0} \frac{1}{x^4} = \infty$

⑦ $\lim_{x \rightarrow 0} \frac{1}{x^5} = \infty$

⑧ $\lim_{x \rightarrow 0} \frac{1}{x^6} = \infty$

⑨ $\lim_{x \rightarrow 0} \frac{1}{x^7} = \infty$

⑩ $\lim_{x \rightarrow 0} \frac{1}{x^8} = \infty$

⑪ $\lim_{x \rightarrow 0} \frac{1}{x^9} = \infty$

⑫ $\lim_{x \rightarrow 0} \frac{1}{x^{10}} = \infty$

⑬ $\lim_{x \rightarrow 0} \frac{1}{x^{11}} = \infty$

⑭ $\lim_{x \rightarrow 0} \frac{1}{x^{12}} = \infty$

⑮ $\lim_{x \rightarrow 0} \frac{1}{x^{13}} = \infty$

⑯ $\lim_{x \rightarrow 0} \frac{1}{x^{14}} = \infty$

⑰ $\lim_{x \rightarrow 0} \frac{1}{x^{15}} = \infty$

⑱ $\lim_{x \rightarrow 0} \frac{1}{x^{16}} = \infty$

⑲ $\lim_{x \rightarrow 0} \frac{1}{x^{17}} = \infty$

⑳ $\lim_{x \rightarrow 0} \frac{1}{x^{18}} = \infty$

㉑ $\lim_{x \rightarrow 0} \frac{1}{x^{19}} = \infty$

㉒ $\lim_{x \rightarrow 0} \frac{1}{x^{20}} = \infty$

May 8-7:53 AM

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