

Thursday, September 5

Describe the different types of answers you can get when finding the limit of a function. What are some "tricks" to finding the limit?

September 5 - Day 4

Students will verbally explain how to find the limit analytically, graphically and numerically
(using the words:
evaluate, simplify, right, left, positive, negative, infinity, sweeping away the crumbs...)

$$\lim_{x \rightarrow \infty} \frac{4x^2+7}{9x^2-2}$$

$$\lim_{x \rightarrow \infty} \frac{4x^2+7}{9x^2-2}$$

Sweep away the crumbs * because $x \rightarrow \pm\infty$
(7, -2)

$$\Rightarrow \lim_{x \rightarrow \infty} \frac{4x^2}{9x^2} = \frac{4}{9}$$

$$\lim_{x \rightarrow \infty} \frac{10-12x^4}{100x+2}$$

$$\lim_{x \rightarrow \infty} \frac{10-12x^4}{100x+2}$$

\rightarrow crumbs
10, 2

$$\Rightarrow \lim_{x \rightarrow \infty} \frac{-12x^4}{100x} = \lim_{x \rightarrow \infty} \frac{-12x^3}{100} = -\infty$$

$$\lim_{x \rightarrow \infty} \frac{7000+9x^{10}}{5x^{15}}$$

crumbs: 7000

$$\Rightarrow \lim_{x \rightarrow \infty} \frac{9x^{10}}{5x^{15}} = \lim_{x \rightarrow \infty} \frac{9}{5x^5} = 0$$