

Limits

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1:51 AM

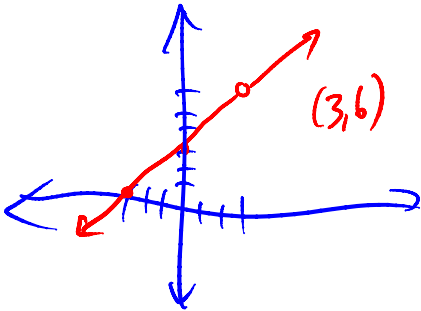
The limit of a fcn is the fcn's tendency when
(y value)
near a given x value.

Simplest ones only req. substitution.

$$\text{Ex. } \lim_{x \rightarrow 3} \frac{x^2 + 1}{x + 2} = \frac{3^2 + 1}{3 + 2} = \frac{10}{5} = \boxed{2}$$

More sophisticated examples require factoring and canceling
to eliminate the $\%$ factors

$$\text{Ex. } \lim_{x \rightarrow 3} \frac{x^2 - 9}{x - 3} = \lim_{x \rightarrow 3} \frac{(x+3)(x-3)}{x-3} = \lim_{x \rightarrow 3} x+3 = \boxed{6}$$



p66 (7-13) odd, 19-21, 23

p95 1, 2, 5, 15-24, 29, 30, 39, 54