

SECTION 2-3: LIMIT LAWS

1. Let's use some concrete examples to figure out some rules.

(a) $\lim_{x \rightarrow 5} 20 =$

(b) $\lim_{x \rightarrow 5} x =$

(c) $\lim_{x \rightarrow 5} (x + 20) =$

(d) $\lim_{x \rightarrow \pi/2} x \sin(x) =$

(e) $\lim_{x \rightarrow \pi/2} 100(x \sin(x)) =$

2. *ALL* rules are formally listed in Theorem 2.5 in your textbook. The nutshell version of these rules is

What happens when the rules don't apply?

3. lesson:

$$\lim_{t \rightarrow 2} \frac{t^2 - 4}{t - 2}$$

4. lesson:

$$\lim_{x \rightarrow 2} \frac{\frac{1}{4} - \frac{1}{2+x}}{x - 2}$$

5. lesson:

$$\lim_{h \rightarrow 0} \frac{\sqrt{a} - \sqrt{a+h}}{h}$$