

LESSON 2: TECHNIQUES FOR EVALUATING LIMITS

Objective: 1. To learn techniques for evaluating limits

If a limit cannot be directly evaluated at a limiting value, it may be possible to rewrite the function in another form that can be evaluated.

Some techniques include: Factoring and reducing
Rationalizing

Examples

1. $\lim_{x \rightarrow 3} \frac{x^2 - 9}{x - 3}$

2. $\lim_{x \rightarrow 3} \frac{\sqrt{x} - \sqrt{3}}{x - 3}$

3. $\lim_{h \rightarrow 0} \frac{\sqrt{4+h} - 2}{h}$

Problems for Lesson 2

1. $\lim_{x \rightarrow -2} \frac{x^2 + 5x + 6}{x^2 + x - 2}$

2. $\lim_{x \rightarrow 8} \frac{\sqrt[3]{x} - 2}{x - 8}$

3. $\lim_{x \rightarrow 3} \frac{x - 3}{x^2 - 4x + 3}$

4. $\lim_{x \rightarrow 4} \frac{\sqrt{x+5} - 3}{x - 4}$

5. $\lim_{x \rightarrow \sqrt{3}} \frac{x^3 + 7x^2 - 3x - 21}{x - \sqrt{3}}$

Try Reducing