

1-5 Videos Guide

1-5a

- Conceptual description of a limit

Exercises:

- Examine $f(x) = \frac{x^2 - 2x - 15}{x - 5}$ near where $x = 5$.
- Examine $g(x) = x + 3$ near where $x = 5$.

1-5b

- Ways in which a limit can fail to exist
- Infinite limits

1-5c

Exercise:

- Sketch the graph of an example of a function f that satisfies all of the given conditions.

$$\begin{array}{lll} \lim_{x \rightarrow 0} f(x) = 1, & \lim_{x \rightarrow 3^-} f(x) = -2, & \lim_{x \rightarrow 3^+} f(x) = 2, \\ f(0) = -1, & f(3) = 1 & \end{array}$$