

## Sample Exam #1

- Use graphical and numerical methods to approximate the given limits.
  - 5
  - DNE
  - 7
- approx. -0.11
- 0
  - Not possible to know.
- Evaluate the given limits.
  - approx. 0
  - approx. 0.6064
  - DNE
- 1
  - 0
  - DNE
  - 0
- Determine if  $f$  is continuous at the indicated values. If not, explain why.
  - yes
    - no; the left-hand and right-hand limits at 1 are not equal
  - yes
    - no;  $\lim_{x \rightarrow 8} f(x) = 16/5 \neq f(8) = 5$
- Give the intervals on which the given function is continuous.
  - $[-1, 1]$
  - $(-1, 1)$
  - $(-\infty, 0]$
- Identify the horizontal and vertical asymptotes, if any, of the given function.
  - $y = 2, x = -5, 4$

(b)  $y = 0, x = -1, 0$

(c) none

9. Evaluate the given limits.

(a)  $\infty$

(b)  $-\infty$

(c) 0