

# 1.14 Infinite Limits and Vertical Asymptotes

Calculus

Name: \_\_\_\_\_

**CA #1**

**Identify the vertical asymptotes of each function.**

1.  $f(x) = \frac{x^2+4x+3}{x+1}$

2.  $f(x) = \frac{x-5}{x^2-11x+30}$

3.  $f(x) = \tan(2x)$  on the interval  $[0, \pi]$

4.  $f(x) = \frac{x-3}{x^2-10x+21}$

**Evaluate the limit.**

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

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

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

8.  $\lim_{x \rightarrow 3^-} \frac{x-2}{x^2-5x+6}$

1. No vertical asymptotes	2. $x = 6$	3. $x = \frac{4}{\pi}, x = \frac{3\pi}{4}$	4. $x = 7$	5. $\infty$	6. $-\infty$	7. DNE	8. $-\infty$
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