

**MTH 1125 Test #1**  
SUMMER 2023

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Name \_\_\_\_\_

**Instructions.** Show **CLEARLY** how you arrive at your answers.

1. Compute:  $\lim_{x \rightarrow 2} \frac{2x^2 - 3x + 4}{x^2 + 3} =$

2. Compute:  $\lim_{x \rightarrow 2} \frac{x^2 - 5x + 6}{x^2 - 7x + 10}$

3.  $\lim_{x \rightarrow -2} \frac{x^2 + 4x - 9}{x^2 - x - 6}$

4. Compute:  $\lim_{x \rightarrow \infty} \frac{3x^5 - 3x^3 + 3}{2x^4 + 6x + 4} =$

5. Find the asymptotes and graph:  $f(x) = \frac{x^2+5x+4}{x^2-9}$

6. Compute:  $\lim_{x \rightarrow 5} \frac{\sqrt{x-1}-2}{x-5} =$

7.

$x =$	$f(x) =$	$x =$	$f(x) =$
2.5	10.2	3.5	10.2
2.9	157.32	3.1	157.32
2.99	10045.56	3.01	10045.56
2.999	235,402.27	3.001	235,402.27
2.9999	5,873,002.16	3.0001	5,873,002.16

Based on the information in the table above, do the following:

(a)  $\lim_{x \rightarrow 3^-} f(x) =$

(b)  $\lim_{x \rightarrow 3^+} f(x) =$

(c) Graph  $f(x)$