

MTH 1125 Test #1
SUMMER 2021

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Name _____

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

1. Compute: $\lim_{x \rightarrow 3} \frac{x^2+3x-7}{x^2+x} =$

2. Compute: $\lim_{x \rightarrow 2} \frac{x^2-8x+12}{x^2-3x+2} =$

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

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

5. Find the asymptotes and graph: $f(x) = \frac{x^2-9x+20}{x^2-9}$

6. Compute: $\lim_{x \rightarrow 3} \frac{\sqrt{x+6}-3}{x-3} =$

7.

$x =$	$f(x) =$	$x =$	$f(x) =$
-2.5	-10.2	-1.5	-10.2
-2.1	-157.32	-1.9	-157.32
-2.01	-10045.56	-1.99	-10045.56
-2.001	-235,402.27	-1.999	-235,402.27
-2.0001	-5,873,002.16	-1.9999	-5,873,002.16

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

(a) $\lim_{x \rightarrow -2^-} f(x) =$

(b) $\lim_{x \rightarrow -2^+} f(x) =$

(c) Graph $f(x)$