

MTH 1125 Test #1 - (12 pm class - Pod A)

FALL 2020

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Name _____

Instructions. Show CLEARLY how you arrive at your answers.

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

2. Compute: $\lim_{x \rightarrow 4} \frac{x^2-5x+4}{x^2-9x+20} =$

3. Compute: $\lim_{x \rightarrow 4} \frac{x^2+4x-9}{x^2-2x-8} =$

4. Compute: $\lim_{x \rightarrow -\infty} \frac{4x^6+7x^2-5}{2x^5+6x^3-8x} =$

5. $f(x) = \frac{x^2-5x}{x^2+x-6}$ Find the asymptotes and graph

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

7.

$x =$	$f(x) =$	$x =$	$f(x) =$
-2.5	3.6	-1.5	3.6
-2.1	30.8	-1.9	30.8
-2.01	318.9	-1.99	318.9
-2.001	3,241.9	-1.999	3,241.9
-2.0001	35,342.2	-1.9999	35,342.2

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 $f(x)$

8. Determine whether or not $f(x)$ is continuous at the point $x = 2$. (Justify Your Answer)

$$f(x) = \begin{cases} 3x - 2 & \text{for } x < 2 \\ 6 & \text{for } x = 2 \\ 5x - 4 & \text{for } x > 2 \end{cases}$$