Grima MAT 212

Chapter 1 test practice test with hypothetical point values

1) Below is a graph of the function f(x). Find the following. (2 points for each part, 16 total points)

a) $f(1)$

b) $f(6)$

c) $\lim_{x\to 1^-} f(x)$ =_____

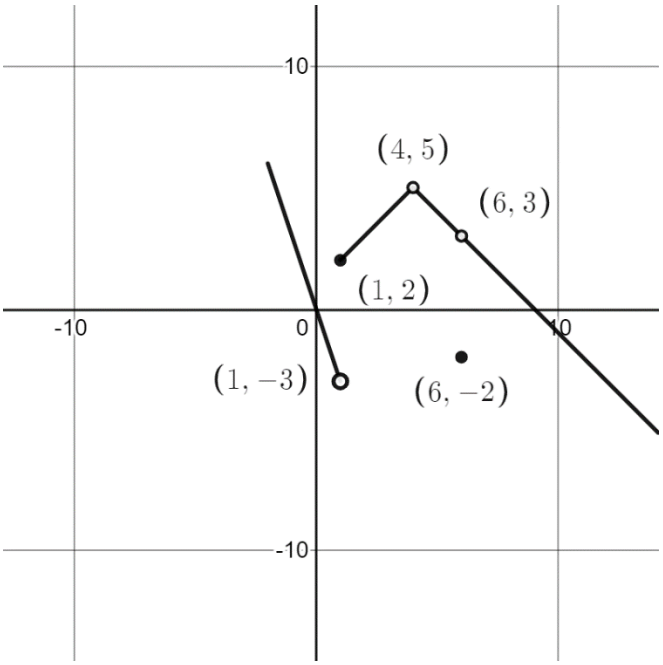
d) $\lim_{x\to 1^+} f(x)$=_____

e) $\lim_{x\to 1} f(x)$=_____

f) $\lim_{x\to 4^-} f(x)$ =_____

g) $\lim_{x\to 4^+} f(x)$=_____

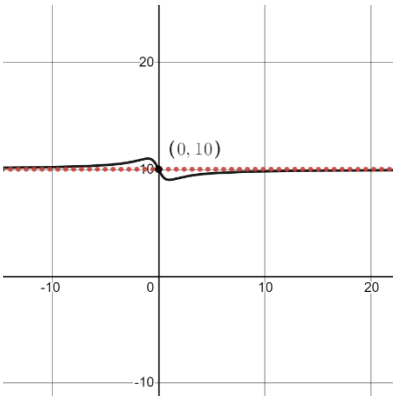
h) $\lim_{x\to 4} f(x)$=_____



2) Below is a graph of the function f(x). Find the following. (3 points each, 6 total points)

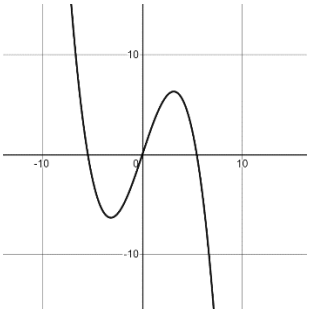
a) $\lim_{x\to -\infty} f(x)$ =_____

b) $\lim_{x\to \infty} f(x)$=_____



3) Below is a graph of the function f(x). Find the following. (3 points each, 6 total points)

a) $\lim_{x\to-\infty} f(x)$ =_____ b) $\lim_{x\to\infty} f(x)$=_____



4) Find the following limit using Algebra. A correct answer with no work will receive 0 points. (10 points)

$\lim_{x\to-7} \frac{x^2+5x-14}{x^2-49}$

5) Find the following limit using Algebra. A correct answer with no work will receive 0 points. (10 points)

$\lim_{x\to9} \frac{\sqrt{x}-3}{x-9}$

6) Find the following limit using Algebra. A correct answer with no work will receive 0 points. (10 points)

$\lim_{x\to\infty} \frac{7x-1}{2x+3}$

7) Find all values of $x = a$ where the function $f(x)$ is discontinuous in the graph for question 1. State if the function is continuous everywhere. You do not need to state the reason the function is discontinuous.. (6 points)

8) Find all values of $x = a$ where the function $f(x)$ is discontinuous. State if the function is continuous everywhere. You do not need to state the reason the function is discontinuous. (6 points)

$f(x) = \frac{6}{x^2-5x-14}$

9) Use the definition of the derivative to find f'(x) (0 points for correct answer without limit work) (10 points)

$f(x) = 4x^2 + 3$

10) Find a formula to find the slope of a tangent line for the function f(x). (must use limits to get answer. 0 points for correct answer without limit work.) (12 points)

$f(x) = \frac{6}{x}$

11) A toy rocket is launched straight up so that its height *s*, in meters, at time *t*, in seconds, is given by (4 points each, 8 points total)

$s(t) = -8t^2 + 64t \quad and \quad s'(t) = -16t + 64$

a) Find $s'(2)$

b) Interpret your answer to part a.