Quiz 3

● Graded

Student

Colin Cano

Total Points

8.5 / 10 pts

Question 1

Question 1

4.5 / 6 pts

– **0 pts** Correct: (a) 3, (b) 1, (c) 3, (d) 3, (e) Doesn't exist, because one-sided limits are not equal, (f) 2.

– **1 pt** Part (a) is not 3.

– **1 pt** Part (b) is not 1.

– **1 pt** Part (c) is not 3.

✔ – **1 pt** Part (d) is not 3.

✔ – **0.5 pts** Part (e) is 'doesn't exist' but with no/wrong reasoning.

– **1 pt** Part (e) is not 'doesn't exist'.

– **1 pt** Part (f) is not 2.

Question 2

Question 2(a)

2 / 2 pts

✔ – **0 pts** Correct: -5

– **0.5 pts** Had $\frac{(x+3)(x-2)}{x+3} = x - 2$ but final answer is not -5.

– **1 pt** Factored correctly as $\frac{(x+3)(x-2)}{x+3}$ but made mistakes in cancellation.

– **1.5 pts** Tried to factor but made mistakes in getting $\frac{(x+3)(x-2)}{x+3}$.

– **2 pts** Didn't attempt to factor the problem.

Question 3

Question 2(b)

2 / 2 pts

✔ – **0 pts** Correct: $\frac{25}{16}$.

– **0.5 pts** Had $(\frac{-5}{4})^2$ correctly but final answer is wrong as $-\frac{25}{16}$, $\frac{25}{not\ 16}$, or $\frac{not\ 25}{16}$.

– **1 pt** Had $(\frac{-5}{4})^2$ correctly but final answer is wrong and not among the cases listed above.

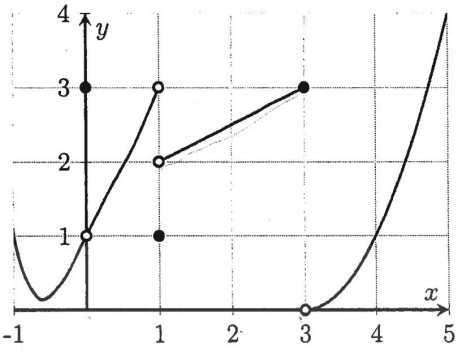
– **1.5 pts** Substitution is correct but made arithmetic mistakes in getting $(\frac{-5}{4})^2$.

– **2 pts** No correct steps.

MATH:1850 Quiz 3 Fall 2024
TA:

Name: Colin Canu Student ID: _____

1. Use the given graph of $f(x)$ to state the value of each quantity, if it exists. If it doesn't exist, explain why.



(a) $f(0)$ 3

(b) $\lim_{x\to 0} f(x) =$ 1

(c) $\lim_{x\to 1^-} f(x) =$ 3

(d) $f(3) =$ DNE Does not exist

(e) $\lim_{x\to 3} f(x)$ Does not exist

(f) $\lim_{x\to 1^+} f(x)$ 2

2. Find the following limits if they exist.

(a) $\lim_{x\to -3} \frac{x^2+x-6}{x+3} = \lim_{x\to -3} \frac{(x+3)(x-2)}{x+3} = \lim_{x\to -3} (x-2) = -3-2 = -5$

(b) $\lim_{x\to -2} \left(\frac{2x-1}{3x^2+x^3}\right)^2 = \left(\frac{2(-2)-1}{3(-2)^2+(-2)^3}\right)^2 = \left(\frac{-4-1}{12-8}\right)^2 = \left(\frac{-5}{4}\right)^2 = \frac{25}{16}$

$\frac{(2x-1)(2x-1)}{(3x^2+x^3)(3x^2+x^3)} = \frac{-5\cdot -5}{4\cdot 4} = \frac{25}{16}$