Math 157 - Quiz 4

Name key

September 14, 2016

Score _____

Show all work to receive full credit. Supply explanations when necessary.

1. (3 points) Use algebra to find the limit: $\lim_{x\to 2} \dfrac{x^2+x-6}{x-2}$

$\frac{0}{0}$ NONSENSE

$$= \lim_{x\to 2} \frac{(x-2)(x+3)}{x-2}$$

$$= \lim_{x\to 2} (x+3) = \boxed{5}$$

2. (3 points) Use any method to find the limit: $\lim_{x\to -3} (4x^2 - 7x + 4)$

CAN PLUG IN TO POLYNOMIALS.

$$= 4(-3)^2 - 7(-3) + 4$$

$$= 36 + 21 + 4$$

$$= \boxed{61}$$

3. (4 points) Use a table of values to estimate the following limit. Your table must show function values at six or more points.

$$\lim_{x\to 4} \frac{12+x-x^2}{2-\sqrt{x}} \approx \boxed{28}$$

IT LOOKS LIKE

x	$\frac{12+x-x^2}{2-\sqrt{x}}$
3.9	27.426
3.99	27.943
3.999	27.994
4.1	28.576
4.01	28.058
4.001	28.006