Math 221 – Quiz 1 – February 1, 2002
Answers

I. (5 points.)

$$\lim_{x \to 0^-} \frac{1}{x} = -\infty \qquad\qquad \lim_{x \to 0^+} \frac{1}{x} = +\infty$$

$$\lim_{x \to 0} \frac{1}{x} = \text{Does Not Exist}$$

II. (5 points.)   Let $f(x) = (x-1)^2$.

a) Find the equation of the line through the points $P(1, f(1))$ and $Q(3, f(3))$.

$$\frac{y - 0}{x - 1} = \frac{(2)^2 - 0^2}{3 - 1} = 2$$

b) Find $f'(2)$, the derivative of f at $x = 2$.

$$f'(2) = \lim_{x \to 2} \frac{f(x) - f(2)}{x - 2} = \lim_{x \to 2} \frac{x^2 - 2x}{x - 2} = \lim_{x \to 2} x = 2.$$

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4. 213 students took the quiz, the average score was 13.7
and here is the distribution of scores:
points  #students
2        2
3        1
4        1
5        9
6        10
7        7
8        13
9        8
10       12
11       3
12       14
13       17
14       9
15       17
16       20
17       13
18       14
19       6
20       37
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