Quiz 1 (Individual) for Mathematics 223
Introductory Analysis I - Spring 1999
Material Covered: Sections 1.3,1.4 of text and notes
For: 29th January

This is a 15 minute quiz, worth 6% and marked out of 6 points. The total possible points awarded for each question is given in square brackets at the beginning of each question. Anything that can fit on one side of an $8\frac{1}{2}$ by 11 inch piece of paper may be used as a reference during this quiz. A calculator may also be used. No other aids are permitted.

Name (please print): ——————————— . **ID Number:** ——————— .

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last   first

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1. The monthly fixed costs of using machine I is $2,500. The variable costs of manufacturing one unit of a product using machine I is $3. Each unit of the product sells for $6.

(a) [2] $C(x) =$ ——————————————————— .

(b) [2] $P(X) =$ ——————————————————— .

(c) [2] The amount of revenue this manufacturer must make

in order to break even is: ——————————————————— .

1. The monthly fixed costs of using machine I is $2,500. The variable costs of manufacturing one unit of a product using machine I is $3. Each unit of the product sells for $6.

(a) [2] $C(x) = 2500 + 3x$

(b) [2] $P(X) = R(x) - C(x) = 6x - [2500 + 3x] = 3x - 2500$

(c) [2] The amount of revenue this manufacturer must make in order to break even is:

since the break–even point is at $6x = 2500 + 3x$, $x = \frac{2500}{3}$ and so $R\left(\frac{2500}{3}\right) = 6\left(\frac{2500}{3}\right) = \$5,000$.