

Math 120 A - Winter 2008
Mid-Term Exam Number One
January 31, 2007
Answers

Version A (in problem 1, Gloria can sell 1000 tickets at \$2 each)

1. \$10.5875
2. 2.4269 hours
- 3.

$$A(x) = \begin{cases} 3x & \text{if } 0 \leq x \leq 4, \\ -\frac{3}{4}x^2 + 9x - 12 & \text{if } 4 \leq x \leq 6 \end{cases}$$

As long as your expression is equivalent to this it is correct (i.e., you did not have to simplify to this form).

4. (a) $x = \frac{8}{3}$ is the only fixed point.
(b) $x = -\frac{23}{14}$ is the only fixed point.

Version B (in problem 1, Gloria can sell 500 tickets at \$3 each)

1. \$9.30
2. 6.2751 hours
- 3.

$$A(x) = \begin{cases} 3x & \text{if } 0 \leq x \leq 4, \\ -\frac{3}{4}x^2 + 9x - 12 & \text{if } 4 \leq x \leq 6 \end{cases}$$

As long as your expression is equivalent to this it is correct (i.e., you did not have to simplify to this form).

4. (a) $x = 3$ is the only fixed point.
(b) $x = -\frac{1}{7}$ is the only fixed point.