

MATH 112 B, C
Exam II - Version 1
Hints and Answers

1. (a) ANSWER: $y = -6x + 11.2$
(b) HINT: Compute the mean squared error for each line.
ANSWER: $y = -0.75x + 6.75$ is the better fit.
(c) ANSWER: 18.5
2. (a) ANSWER: $\frac{\partial f}{\partial s} = \frac{1}{24}(3s^2)t^3 - 2st^2 + \frac{15}{16}(4s^3)t - \frac{14}{s^2}$
(b) ANSWER: $t = 3, 5$
(c) ANSWER: 90.33
(d) $S(t) = \frac{1}{3}t^2 - 4t + 15 + \frac{7}{t}$, $S'(t) = \frac{2}{3}t - 4 - \frac{7}{t^2}$
3. (a) ANSWER: $t(x, y) = 20x + 50y$, $b(x, y) = 15x + 25y$
(b) HINT: The feasible region involves the lines $20x + 50y = 8500$ and $15x + 25y = 5000$.
ANSWER: (333.33, 0) and (150, 110)
(c) ANSWER: \$4166.63
(d) ANSWER: 150 standard, 110 deluxe