

MATH 111 – EXAM I Answers
Winter 2015

Version 1: In #1(a), you are producing 1000 Objects.

- (a) (3 points) ~ 0.83 dollars per Object
(b) (3 points) ~ 0.63 dollars per Object
(c) i. (2 points) The graph of TR is a diagonal line with slope 1.50.
ii. (4 points) ~ 2.5 hundred dollars
iii. (2 points) $\overline{MR} = 1.50$ dollars per Object
iv. (2 points) $q \approx 17$ hundred Objects
 - (a) (2 points each) (i) at $t = 3$; (ii) at $t = 9$; (iii) at $t = 11$.
(b) (3 points) $M(7) - M(5) \approx \$800$
(c) (3 points) $\sim \$266,200$
 - (3 points each)
(a) $\frac{D(6+h) - D(6)}{h}$
(b) the slope of the diagonal line through the graph of $D(t)$ at $t = 9.25$
(c) $b \approx 5.8, 7.3$ seconds
(d) $t \approx 6.3$ seconds
 - (5 points each) (a) $x > -\frac{4}{10}$; (b) after 4.75 months.
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Version 2: In #1(a), you are producing 800 Objects.

- (a) (3 points) ~ 1.27 dollars per Object
(b) (3 points) ~ 0.70 dollars per Object
(c) i. (2 points) The graph of TR is a diagonal line with slope 1.50.
ii. (4 points) ~ 4.5 hundred dollars
iii. (2 points) $\overline{MR} = 1.50$ dollars per Object
iv. (2 points) $q \approx 18.5$ hundred Objects
- (a) (2 points each) (i) at $t = 3$; (ii) at $t = 9$; (iii) at $t = 11$.
(b) (3 points) $M(7) - M(5) \approx \$800$
(c) (3 points) $\sim \$282,200$
- (3 points each)
(a) $\frac{D(7+h) - D(7)}{h}$
(b) the slope of the diagonal line through the graph of $D(t)$ at $t = 6.75$
(c) $b \approx 5.5, 8.4$ seconds
(d) $t \approx 6.3$ seconds
- (5 points each) (a) $x > -\frac{7}{8}$; (b) after 5.25 months.