

MATH 111 WINTER 2014
FINAL EXAM ANSWERS

1. (a) ~ 0.5 miles per minute
(b) ~ 7.2 and 12 minutes
(c) from ~ 19.5 to 21.5 minutes
(d) at $t \approx 8$ minutes
2. (a) ~ 0.50 dollars per muffin
(b) ~ 0.40 dollars per muffin
(c) $q \approx 105$ muffins
(d) ~ 72 dollars
3. (a) i. $FC = 500$
ii. $VC(q) = 0.02q^3 - 2.8q^2 + 99.3q$
iii. $AC(q) = 0.02q^2 - 2.8q + 99.3 + \frac{500}{q}$
iv. $AVC(q) = 0.02q^2 - 2.8q + 99.3$
(b) 615.52 dollars per Dweezil
(c) 1.30 dollars per Dweezil
4. (a) $p = -1.6q + 794$
(b) $p = 3.2q + 122$
(c) $(q, p) = (140, 570)$
5. 0 packages of Exquisite and 125 packages of Yogurty
6. (a) 217.5 dollars
(b) 10 and 95 marionettes
(c) 1388 dollars
7. Option A is the best, yielding \$28,863.81, compared to Option B (\$28,699.39) and Option C (\$28,815.46).
8. (a) \$4077.62
(b) \$91.97