

**MATH 111 – FINAL EXAM Answers**  
Autumn 2010

1. (a) Account B  
(b) 3.64 years  
(c) 3.93%  
(d) \$1.32  
(e) \$2503.50
2. (a) 67,500 bacteria  
(b) 10,817 bacteria  
(c) 108.01%  
(d) 113.57
3. (a) 25 hundred dollars  
(b) 0.86 dollars per Thing  
(c) from  $q = 21.72$  to  $q = 78.28$  hundred Things  
(d)  $MR(4) = 0.009199$  hundred dollars OR  $MR(4) = 0.92$  dollars per Thing
4. (a) 1.15 and 4.28 hundred Objects  
(b) 1.98 hundred dollars  
(c) 5.43 hundred Objects  
(d) 7.74 hundred Objects
5. Answers are approximate.
  - (a) 25 thousand dollars
  - (b) 0.33 dollars (or dollars per Item)
  - (c) 0.76 dollars per Item
  - (d)  $q = 6$  thousand Items
  - (e)  $q = 59$  thousand Items
  - (f)  $q = 102$  thousand Items
6. (a) i.  $t = 2$   
ii.  $t = 4$   
iii.  $t = 6$   
iv. the temperature is the same at both times  
(b) from  $t = 12$  to  $t = 20$   
(c) i. 66.5 degrees  
ii. 65 degrees