Chapter 21 Problem Set 3

1. a. 12%

b.

Interest = 0.095 x $5 mill = $475,000

Repayment = = $456,250

$5,000,000 = $456,250 []

Using Lotus, we get r = .1710 or 17.10%

c.

Discount interest = $500,000

Net funds available = $4,500,000

r = = .1111 or 11.11%

d.

Loan proceeds = $5 mil – 0.1($5 mil)

= $4,500,000

Effective rate = = 11.11%

c and d are the least costly alternatives

2.

Factor fee = 2%

Interest cost = X 36.5 = 1.4%

EAR = (2% + 1.4%) X = 34%

APR/10 = (1 + .34)1/10 – 1

APR = 0.2970 or 29.70%

3.

Discount = 0.08 X $200 mill X = $7,890,411

Price = $200 mill - $7.89 mill = $192.11 mill

Fee = 0.001 X $200 mill = $200,000

Total cost = $7.89 mill + $200,000 = $8.09 mill

Periodic rate = = 4.045%

EAR = (1.04045)365/180 – 1 = 8.37%

4.

Discounted value = = $917,431

Fee = 0.01 x $1 mill = $10,000

Cost = $1 mill - $917,431 + $10,000 = $92,569

Effective rate = = .1009 or 10.09%

5.

Amount advanced = 0.8 x $2mill = $1.6 mill

$ cost for 6 months = 0.07 / 2 x $1.6 mill = $56,000

Total cost for 6 months = $56,000 + $15,000 = $71,000

Periodic rate = = 0.0444 or 4.44%

EAR = (1.0444)12/6 – 1 = 9.08%

6.

cost = x = x = 6.40%

7.

cost = x = x = 9.21%

8.

EOQ = = = 2,000

# of orders = = 50 every 250 days

So ordering should take place about every 5 days.