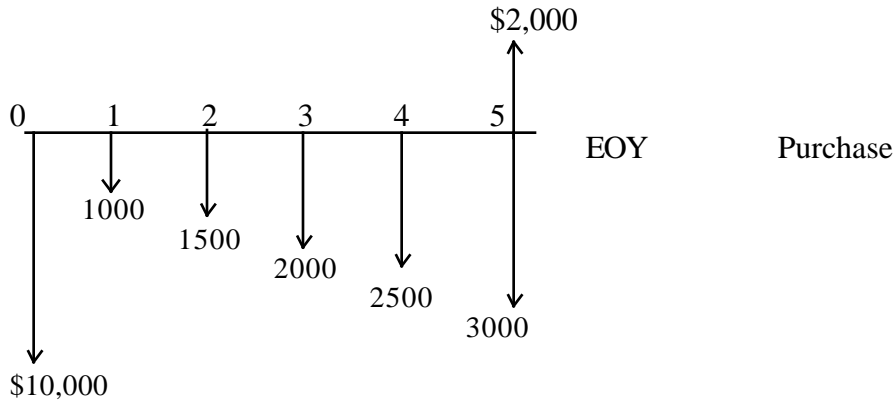


Solutions to Practice Exam

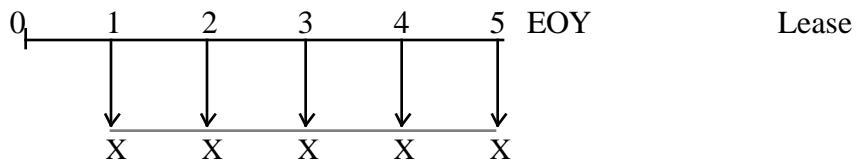
Question 1

(a)

Company's viewpoint



vs.



$$(b) \quad P_0 = -\$10,000 - \$1,000(P/A, 8\%, 5) - \$500(P/G, 8\%, 5) + \$2,000(P/F, 8\%, 5)$$

$$= -\$16,315$$

$$AW = -\$16,315(A/P, 8\%, 5) = -\$4,086.20$$

Lease if annual fee is less than \$4,086.20

Question 2 True(T) False(F)

- (a) F
- (b) T
- (c) F
- (d) T
- (e) F
- (f) F
- (g) F
- (h) T
- (i) F
- (j) F
- (k) F
- (l) T
- (m) T
- (n) T
- (o) T

Question 3

- (a) Set equivalent worths equal as a function of i' /month:

$$\$2,000 = \$150 + \$100(P/A, i' / \text{mo.}, 20)$$

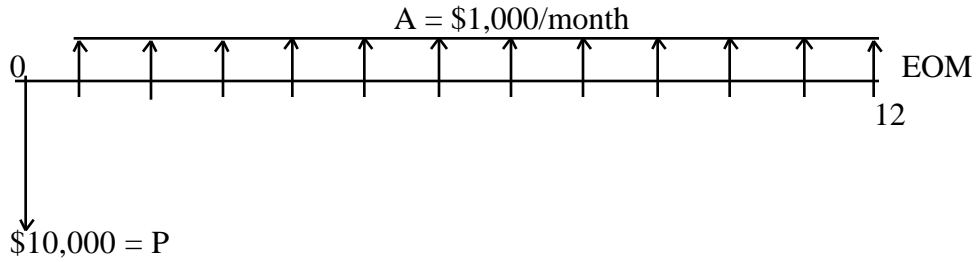
$$18.5 = (P/A, i' / \text{mo}, 20 \text{ months})$$

$$i' \approx 0.75\%$$

- (b) If 3/4% per month is too low, take the \$2,000 cash. This is the “ P_0 equivalent” of \$2,000 and it is greater than the “ P_0 equivalent” of the series of gifts for interest rates greater than 3/4% per month.

Question 5

Viewpoint of lender (Hammerhead)



$$0 = -\$10,000 + \$1,000(P/A, i' / \text{mo.}, 12)$$

$$i' / \text{mo.} = 2.9\%$$

$$r / \text{yr.} = 12(2.9\%) = 34.8\%$$

or

$$i / \text{yr.} = (1.029)^{12} - 1 \simeq 41\%$$

APR	= 34.8%
i/yr.	= 41%

Hammerhead isn't a very good pal (he's greedy).

Question 6

Alt. 1

EOY	BTCF	DEP	TI	T	ATCF	PW
0	-11,000	—	—	—	-11,000	-11,000
1	3,000	3,000	0	—	3,000	2,679
2	3,000	3,000	0	—	3,000	2,392
3	3,000	3,000	0	—	3,000	2,135
4	3,000	—	3,000	-1,200	1,800	1,144
5	3,000	—	3,000	-1,200	1,800	1,021
5	2,000	*	0	0	2,000	1,135

$$PW(1) = -\$494$$

*Book Value = 2,000

Alt. 2

EOY	BTCF	DEP	TI	T	ATCF	PW
0	-33,000	—	—	—	-33,000	-33,000
1	9,000	10,998.9	-1,998.9	799.56	9,800	8,750
2	9,000	14,668.5	-5,668.5	2,267.4	11,267	8,982
3	9,000	4,913.7	4,086.3	-1,634.52	7,366	5,243
4	9,000	2,445.3	6,554.7	-2,621.88	6,378	4,053
5	9,000	0	9,000	-3,600	5,400	3,064
5	2,000	*	2,000	-800	1,200	681

$$PW(2) = -\$2,227$$

*Book Value = 0

Choose Alt. 1 to minimize total cost

Question 7

A / month = \$100,000 (A/P, 1/2%/month, 30 X 12 payments)
= \$100,000 (0.005995)
= \$599.50 / month

Question 8

Cost of asset P, \$10,000 = B
Useful (and depreciable) life, N 4 years R = 2/4 = 0.5

$d_k = B(1-R)^{k-1} * R$ (Eqn. 7-6, pg. 277)

<u>EOYk</u>	<u>d_k</u>	<u>d^*_k</u>	<u>BV at beginning of year</u>
1	\$5,000	\$5,000	\$10,000
2	2,500	7,500	5,000
3	1,250	8,750	2,500
4	625	9,375	1,250

↑
depreciation
schedule