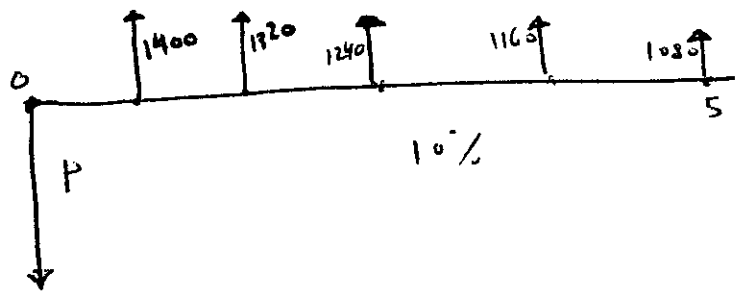
chapter 3 homework solution.

(2/2)

(6)

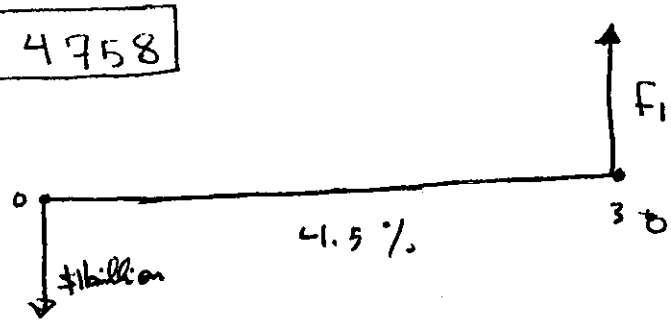
Year	End of year payment
1	$1400
2	$1320
3	$1240
4	$1160
5	$1080



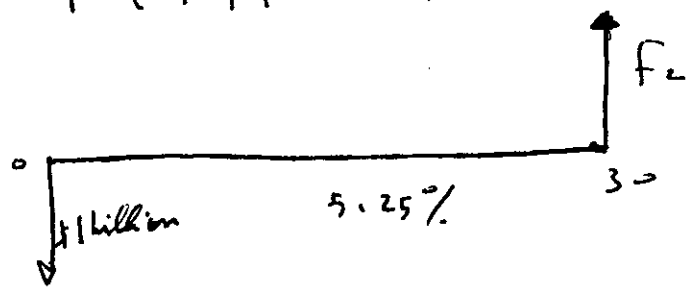
$P = 1400\,(P|F, 10\%, 1) + 1320\,(P|F, 10\%, 2) + 1240\,(P|F, 10\%, 3)$
$+ 1160\,(P|F, 10\%, 4) + 1080\,(P|F, 10\%, 5)$

$= \boxed{\$\ 4758}$

(12)



$F_1 = 1\,(F|P, 4.5\%, 30) = \$3.745$ billions



$F_2 = 1\,(1 + 0.0525)^{30} = \$\ 4.642$ billions

$F_2 - F_1 = \$\ 897$ millions which is the amount saved.

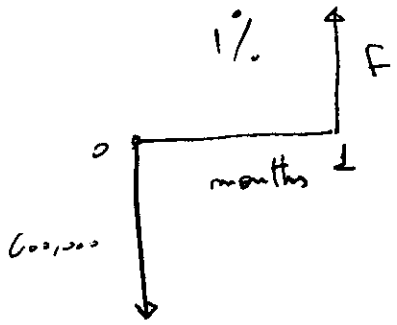
(1)

(15) $1995 - 1903 = 92$ years

$$F = 600\,(1+i)^{92} \Rightarrow 29{,}151{,}000 = 600(1+i)^{92}$$

$$\Rightarrow \quad i = 0.124 = \boxed{12.4\%}$$

(19)



$$F = 600{,}000\,(1.01) = \$\,6000$$

$\Rightarrow$ Extra money earned by the company in a year is:

$$6\,(\$\,6000) = \boxed{\$\,36{,}000}$$

(20)