

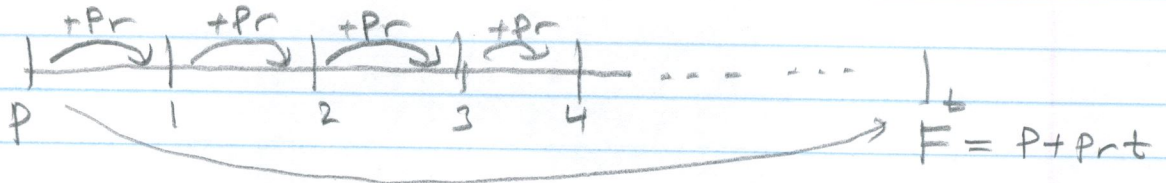
6.1 Homework Notes

WE FOUND THE PATTERN FOR SIMPLE INTEREST:

$$F = P + \text{"TOTAL INTEREST"} \checkmark \text{ years}$$

$$F = P + \text{"INTEREST EACH YEAR"} t$$

$$F = P + Prt = P(1 + rt)$$



Hw #4 | T-Bill problem.

(a) MY NUMBERS: $P = 9720$, $F = 10000$
time = 6 months $\Rightarrow t = \frac{6}{12} = 0.5$ years
 $r = ???$

$$F = P(1 + rt) \Rightarrow 10000 = 9720(1 + r(0.5))$$

Solve for r ← you do

+40

(b) BANK ADDS 40 TO INITIAL COST $\Rightarrow P = 9760$, $F = 10000$
 $t = 0.5$

$r = ??$ ← you do

Hw #5 | STUDENT TUITION PROBLEM

MY NUMBERS $r = 0.09$, time = 4 months $\Rightarrow t = \frac{4}{12} = 0.\bar{3}$ years

$$F = 1900 \quad P = ?$$

$$1900 = P(1 + 0.09(0.\bar{3}))$$

Solve for P

ANSWER: "AMOUNT NEEDED ON SEPT. 1" = $1900 + ?$

= YOU DO

HW #8 wholesaler - on time or late - problem

MV NUMBERS = $P = 900000$

← company has this and is trying to decide what to do

OPTION 1 $r = 0.05$, time = 45 days $\Rightarrow t = \frac{45}{365} = 0.12328767$ yrs

$$F = 900000 (1 + 0.05(0.12328767)) = \$905547.95$$

SO IF WE PAY ON TIME WE WILL KEEP

$$905547.95 - 900000 = \$5,547.95$$

IN INTEREST

OPTION 2 $r = 0.06$ time = 60 days $\Rightarrow t = \frac{60}{365} = 0.16438356$

$$F = ?? \leftarrow \text{you do}$$

IF WE PAY THE BILL IN 60 DAYS IT WILL THEN WE WILL BE CHARGED

$$900000 + 0.01 \cdot 900000 = 909000$$

HOW MUCH INTEREST IS LEFT OVER?

$$\text{compute} = ??? \leftarrow \text{you do}$$

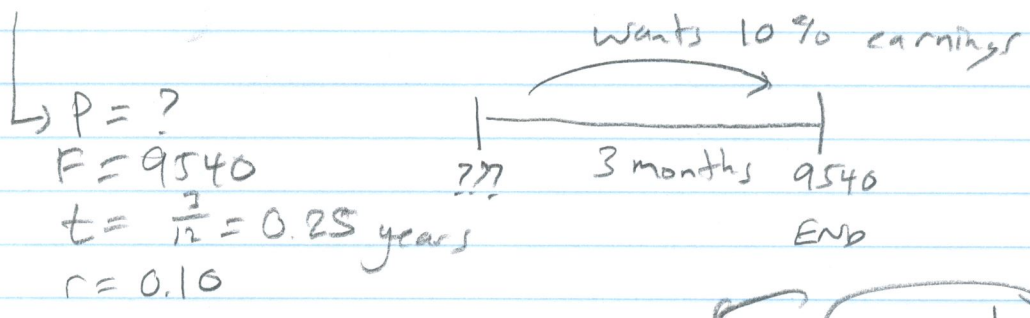
WHICH IS BETTER?

HW #9 Bill and His Friend Problem

(a) my NUMBER $P = 9000$ $r = 0.08$
 $F = ?$ $t = \frac{9}{12} = 0.75$ years

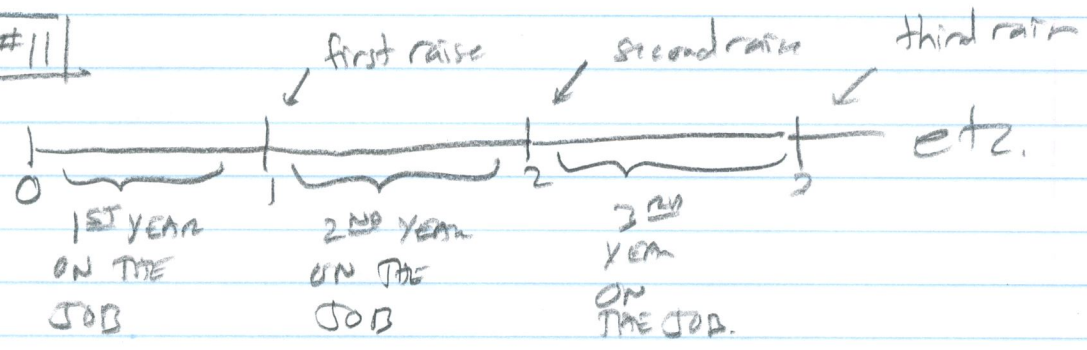
$$F = 9000(1 + 0.08(0.75)) = \$9540$$

(b) FRIEND ← HE WANTS TO EARN 10% IN 3 MONTHS



you set up and solve for P. (you do)

HW #11



SO "THE SALARY FOR YOUR TENTH YEAR ON THE JOB"
 IS THE SAME AS
 "THE SALARY AFTER 9 RAISES!"