

6-3E: Simple Interest

12-2-15

I Simple Interest: the amount of money paid or earned for use of money (\$)**P** Principal: the amount of money deposited or borrowed (\$)**r** Rate: (percentage rate) annual/yearly interest rate (%) * must be converted to a decimal**t** Time: amount of time money borrowed or invested, measured in years or fraction!

* if given time in months, must be converted to years

T Total: Principal and Interest

$$I = Prt \quad T = P + I$$

Ex. 1: Find the simple interest and total amount for each principal, rate, and time.

A) \$1,200; 3.25%; 3 years

B) \$320; 4.75%; 8 months

I = ?

P = \$1200

r = 3.25% = 0.0325

t = 3 yrs

I = Prt

= 1200(0.0325)(3)

= \$117

T = P + I

= 1200 + 117

= \$1317

I = ?

P = \$320

r = 4.75% = 0.0475

t = 8 mo = $\frac{8}{12} = \frac{2}{3}$ yr

I = Prt

= 320(0.0475)($\frac{2}{3}$)

= $\frac{30.4}{3} = 10.1\bar{3}$

I = \$10.13

T = P + I

= 320 + 10.13

= \$330.13

Ex. 2: Phoebe borrowed \$2600 from a bank to pay for college with an annual interest rate of 8%. If it takes 5 years to pay for the loan, how much will she pay total?

I = ?

P = 2600

r = 8% = 0.08

t = 5 yrs

I = Prt

= 2600(0.08)(5)

= \$1,040

T = P + I

= 2600 + 1040

= 3640

Phoebe will pay \$3,640 in total.

Ex. 3: Mariano paid for a plane ticket that cost \$365 using a credit card with an interest rate of 13.5%. If this is the only charge, and he doesn't pay off the card at the end of the month, how much does he owe?

I = ?

P = \$365

r = 13.5% = 0.135

t = 1 mo = $\frac{1}{12}$ yr

I = Prt

= 365(0.135)($\frac{1}{12}$)

= $\frac{49.275}{12} = 4.10625$

I = \$4.11

T = P + I

= 365 + 4.11

T = \$369.11

Mariano owes \$369.11.

HW: GM7 pg. 361(1-17 all)