6-3E Simple Interest

12-3-14 Glencoe Math 7

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 or fraction!

t **time**: amount of time the money is borrowed or invested, measured in years
*If given in months, must be converted to years

T Total: Principal and Interest

$I = Prt$ $T = P + I$

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

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

$I = ?$
$P = \$1200$
$r = 3.25\% = 0.0325 = \frac{3.25}{100}$
$t = 3 \text{ yrs}$

$I = Prt$
$I = (1200)(0.0375)(3)$
$I = \$117$

$T = P + I$
$T = 1200 + 117$
$T = \$1,317$

B) $320; 4.75%; 8 months

$I = ?$
$P = \$320$
$r = 4.75\% = \frac{4.75}{100} = 0.0475$
$t = 8 \text{ mo} = \frac{8 \text{ mo}}{12 \text{ mo}} = \frac{2}{3}$

$I = Prt$
$I = (320)(0.0475)(\frac{2}{3})$
$I = \frac{30.4}{3} = 10.13\overline{3}$
$I = \$10.13$

$T = P + I$
$T = 320 + 10.13$
$T = \$330.13$

Ex. 2 Phoebe borrowed $2,600 from a bank to pay for college tuition at an annual interest rate (APR) of 8%. If it takes her 5 years to pay for the loan, how much will she pay in all?

$I = ?$
$P = \$2600$
$r = 8\% = 0.08$
$t = 5 \text{ yrs}$

$I = Prt$
$I = (2600)(.08)(5)$
$I = \$1,040$

$T = P + I$
$T = (2600) + (1,040)$
$T = \$3,640$

Phoebe will pay a total of $3,640.

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 on the card, and he does not pay off the card at the end of the month, how much does he owe?

$I = ?$
$P = \$365$
$r = 13.5\% = 0.135$
$t = 1 \text{ mo} = \frac{1}{12} \text{ yr}$

$I = Prt$
$I = (365)(0.135)(\frac{1}{12})$
$I = \frac{49.275}{12} = 4.10625$
$I = \$4.11$

$T = P + I$
$T = 365 + 4.11$
$T = \$369.11$

Mariano owes $369.11.

Homework: GM7 page 361 (1-17 all) *May use a calculator... must show all work!