Math 7 Notes Les 2.8

Review of Solving 1-Step Equations
*Simplify each "side" of the equation when possible
*To get the variable by itself when it is being multiplied by a number, divide each side of the equation by that number.

$200 = 5n$	$84 = 2n(300)$	$800 = 5(20)n$
$\dfrac{200}{5} = \dfrac{5n}{5}$	$84 = 600n$	$800 = 100\,n$
$\boxed{40 = n}$	$\dfrac{84}{600} = \dfrac{600n}{600}$	$\dfrac{800}{100} = \dfrac{100n}{100}$
	$\boxed{0.14 = n}$	$\boxed{8 = n}$

Interest is the amount paid or earned for the use of money.

Simple Interest is calculated using the formula

$$i = Prt$$

i = simple interest *money earned or paid*
P = Principal (the amount of money deposited or invested) *or borrow*
r = rate of interest written as a decimal $.5\% = 0.005$
t = number of years money invested

6 months = $\frac{1}{2}$ year	9 months	18 months
$t = .5$	$= \frac{3}{4}$ year	$\frac{18}{12} = 1.5$ years
	$t = .75$	

Brandon found a bank offering a CD (certificate of deposit) that pays 2% simple interest. He has $1,500 to invest. How much interest will he earn in 3 years?

$$i = Prt$$
$$i = (1500)(.02)(3)$$
$$i = 90$$
$$\boxed{\$90}$$

Brandon found a bank offering a CD (certificate of deposit) that pays 4% simple interest. He has $1,500 to invest. How much interest will he earn in 30 months?

$$i = Prt$$
$$i = 1500(0.04)(2.5)$$
$$i = 150$$
$$\boxed{\$150}$$

30 months
$$\dfrac{30}{12} = 2.5 \text{ years}$$

Cali opens a savings account that pays 1.5% simple interest. She earns $18 if she puts money in the account for two years. How much money did she put in the account? → P

$$i = Prt$$
$$18 = P(0.015)(2)$$
$$18 = 0.03P$$
$$\frac{18}{0.03} = \frac{0.03P}{0.03}$$
$$600 = P$$

$\boxed{\$600}$

Micah opens a savings account that pays 0.5% simple interest. He deposits $2000 and leaves it there for 9 months. How much money will he have in the account at the end of that time?

→ 2000 + interst

$$i = Prt$$
$$i = 2000(.005)(.75)$$
$$i = 7.5$$
7.50 interest

9 months
$$\frac{9}{12}$$
.75 years

$$\begin{array}{r} 2000 \\ +\quad 7.50 \\ \hline \end{array}$$
$\boxed{\$ 2007.50}$

Juan borrowed $7,450 from the bank to purchase a used car. The interest rate is 8% per year. When he is finished paying off the loan, how much will he have paid the bank if the loan is for 3 years?   7450 + interest

$$i = Prt$$
$$i = (7450)(.08)(3)$$
$$i = 1788$$
1788 interest

$$\begin{array}{r} 7450 \\ +1788 \\ \hline \end{array}$$
$\boxed{\$ 9238}$

Sara earned $250 in simple interest from the $500 she put in her savings account ten years ago. What was the interest rate? → r

$$i = Prt$$
$$250 = (500)r(10)$$
$$250 = 5000r$$
$$\frac{250}{5000} = \frac{5000r}{5000}$$
$$0.05 = r$$

$\boxed{5\%}$