

Unit: Percent

Name: _____

Key

Lesson 5: Simple Interest

Hour: _____

Vocabulary

Interest: The amount earned or paid for the use of money.

Principal: The amount of money borrowed or deposited.

Simple Interest: Interest that is paid or earned only on the principal.

Annual Interest Rate: The percent of the principal earned or paid per year.

Account Balance: Interest added to the money in the account.

Calculate Simple Interest

Formula for Simple Interest:

$$I = P * r * t$$

Interest principal rate time (in years)

- 1) P = \$500
r = 7%
t = 4 years
Interest: ?

$$I = P * r * t$$

$$= (500) * (.07) * (4)$$

$$= \boxed{\$140}$$

500 principal
+ 140 interest

\$640 Balance

- 2) P = \$2500
r = 3%
t = 9 months
Interest: ?

$$I = P * r * t$$

$$= (2500) * (.03) * (.75)$$

$$= \boxed{\$56.25}$$

\$ 2500 principal
56.25 interest

\$ 2556.25 balance

$\frac{9}{12}$ of a year →

A = principal + interest

$$A = P + P \cdot r \cdot t$$

$$563 = 500 + (500) \cdot r \cdot (7)$$

$$563 = 500 + 3500r$$

$$\frac{63}{3500} = \frac{3500r}{3500}$$

$$.018 = r$$

$$\text{rate} = 1.8\%$$

- 3) A = \$563
 P = \$500
 r = ?
 t = 7 years

- 4) A = \$1670
 P = \$1600
 r = 3.5%
 t = ?

$$\text{time} = 15 \text{ months}$$

$$A = P + P \cdot r \cdot t$$

$$1670 = 1600 + (1600)(.035)t$$

$$1670 = 1600 + 56t$$

$$\frac{70}{56} = \frac{56t}{56}$$

$$1.25 = t$$

years

- 5) P = ?
 r = 7%
 t = 8 years
 I = \$420

$$I = P r t$$

$$420 = P (.07)(8)$$

$$420 = .56P$$

$$750 = P$$

$$\text{principal} = \$750$$

- 6) A = \$22
 P = \$16
 r = 37.5%
 t = ?

$$\text{time} = 1 \text{ year}$$

$$A = P + P r t$$

$$22 = 16 + (16)(.375)t$$

$$22 = 16 + 6t$$

$$6 = 6t$$

$$1 = t$$

Homework: