

3-13-18

Aim: SWBAT find simple interest using the formula  $I = PRT$ .

HW: Packet Page 25

Test Thursday

Do Now: Quiz

**AIM:** SWBAT find simple interest using the formula  $I = prt$ .

**DO NOW:**

Find the percent of change or percent error.

1) A football player gained 1,200 yards last season and 900 yards this season. Find the percent of change.

2) You estimate that a baby pig weighs 20 lbs. The actual weight of the baby pig is 16 lbs. Find the percent error.

**Notes:**

When money is borrowed, interest is charged for the use of that money over a period of time. When the money is paid back, the principal (amount of money that was borrowed) plus the interest is paid back. The amount of interest depends on the interest rate (%), the amount of money borrowed (principal) and the length of time that the money is borrowed. Simple interest is generally charged for borrowing money for short periods of time.

When money is put in a savings account interest is earned over a period of time. The amount of money in the account is the principal (amount of money you deposited) plus the interest. The amount of interest depends on the interest rate (%), the amount of money (principal) and the length of time that the money is in the account.

The formula for finding simple interest is: **Interest = Principal • Rate • Time.** ( $I = PRT$ )

I = Interest, The (\$) amount of interest that is owed or earned.

P = Principal, the amount of money that was borrow, saved or invested.

R = Rate, the percent of interest. **\*Make sure to convert your % to a decimal before multiplying.\***

T = Time, time is **always** in **years**.

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Example #1:  $P$

Jean has \$560 in her savings account. Her account earns 8% interest annually. How much interest will Jean earn after one year?  $R = 0.08$

$$I = PRT$$

$$I = (560)(0.08)(1)$$

$$I = \$44.80$$

If she does not deposit or withdraw any money, how much will be in her account after one year?

There will be  $\$560 + \$44.80 = \$604.80$  in her account after one year.

Example #2:  $P$   $\frac{6}{12}$   $R = 0.10$

Joe borrowed \$5000 for 6 months at a 10% interest rate, what would the interest be after 6 months?

$$I = PRT$$

$$I = (5000)(0.10)\left(\frac{1}{2}\right)$$

$$I = 250$$

How much money will Joe have to repay after six months?

$$\text{Total} = 5000 + 250$$

$$= \$5,250$$

**CLASSWORK:**

Find the interest AND total amount to the nearest cent.

1) 7.5% interest on \$500 for one year

2) 8% interest on \$750 for  $2\frac{1}{2}$  years

3) Lee has \$1050 in a savings account that earns 8.75% interest annually. How much does he have after 6 months? (Remember time MUST be in years.)

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## HOMEWORK - SIMPLE INTEREST

Find the interest AND total amount to the nearest cent.

- 1) 10% interest on \$1000 for 3 years      2) 12.25% interest on \$800 for  $1\frac{1}{2}$  years

- 3) Larry invests \$100 in a savings plan. The plan pays 4.5% interest each year. How much money will Larry earn in interest after 3 years?

- 4) Bill has \$5900 in his savings account. His account earns 8.5% interest annually. Will Bill have enough money for a new car in one year that costs \$6300?

- \*\*5) Tom borrowed \$6,836 from a bank at a rate of 12%. He owed the bank \$1,230.48 in interest at the end of the loan. How long did Tom take the loan out for?

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