

**AW Math 11**

**DAY 3** Simple Interest class notes

Simple Interest  $\$$  EARNED ON OWED BASED ON  
 (INVEST) (LOAN) FORMULA.

To find the <b>simple interest earned:</b> $I = Prt$	To find the <b>final value:</b> $A = P + I$
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**Principal (P)** AMOUNT INVESTED OR BORROWED.

**Term (t)** OR TIME EXPRESSED IN YEARS.

**Rate (r)** INT RATE AS A DECIMAL.

**HOW TO Solve Problems Involving Simple Interest**

STEPS	Example 1: How much <u>interest</u> is earned on an investment of \$5000.00, at <u>3.00%</u> per <u>annum</u> over a <u>2-year term</u> ?	Example 2: If the interest earned is \$45.00 and the rate is <u>4%</u> for <u>3 years</u> , calculate the <u>principal</u> that was invested.
1. Write your formula	$I = Prt$ 3% = .03	$I = Prt$
2. Write your 'knowns'	$I = 5000(.03)(2)$	$I = \$45, r = .04, t = 3yrs$
3. Insert your 'knowns'	$\downarrow$ \$300	$45 = P(.04)(3)$
4. Solve algebraically (do the opposite!)		$45 = .12P$ $.12 \quad .12$ $P = \$375$

**DAY 3** *Simple Interest assignment*

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1. Calculate the amount of simple interest earned on each of the following principal amounts at the rate and term given.
  - a. Principal: \$1000.00, Rate: 2.50% per annum, Term: 1 year
  - b. Principal: \$1000.00, Rate: 5.00% per annum, Term: 1 year
  - c. Principal: \$1000.00, Rate: 2.50% per annum, Term: 2 years
  - d. Principal: \$2000.00, Rate: 2.50% per annum, Term: 1 year
  - e. What happens to the interest earned if any ONE of the 3 variable doubles? What would happen if you doubled rate, time, **and** principal?
  
2. Calculate the value of an investment of \$600.00 after 5 years, invested at a simple interest rate of 3.75% per annum.
  
  
3. How much money would you have after 10 years if you deposited \$1000.00 at a rate of 4.50% simple interest per annum?

4. Find the annual rate of interest if the interest earned is \$515.00 on a principal of \$4500 for 4 years.

**Remember to use the steps!**

- Write your formula
- Write your 'knowns'
- Insert your 'knowns'
- Solve algebraically

5. You put \$2500 into a savings account that earns 3.5% interest annually. What is the total money that will be in the account after 6 years?

6. Betty loaned \$6000.00 to her sister at an interest rate 5%. Her sister gave her \$6825.00 to pay the loan back. How long in years did Betty have to wait to get paid?

7. Susan borrows \$8650 to buy a used car and is charged 4.5% interest. If the term of her borrowing is 5 years, how much interest does she pay in total?

8. If Sheila paid \$797.50 in interest on a 5 year loan of \$5800.00, what was the interest rate?

9. You invest \$1250 in Savings Bond A that earns 4% interest annually. After 3 years you 'cash out' the Savings Bond A and take all that money and invest in Savings Bond B that earns 5.5% interest annually. After 4 years you 'cash out' Saving Bond B to buy a car. How much money do you have to buy a car?