

## SECTION 5.1 – Simple Interest and Discount

Simple Interest Formula:  $I = PRT$ ,  $T$  in years

### Example 1:

- a) Find the simple interest earned on \$25,000 invested at 7% for 9 months.
  
  
  
  
  
  
  
  
  
  
- b) Find the simple interest earned on \$5147.18 invested at 10.1% for 58 days.  
*NOTE: Unless specified, always assume a 360-day year.*
  
  
  
  
  
  
  
  
  
  
- c) Find the simple interest owed on a loan of \$2579 at 9.6% made on October 4 and due March 15.  
(Assume 365 days per year and 28 days in February.)

Future Value (Maturity Value) for Simple Interest:

$$A = P + I = P + PRT = P(1 + RT) \quad \therefore A = P(1 + RT)$$

Present Value for Simple Interest:

$$P = \frac{A}{1 + RT}$$

Present value is the amount of money deposited today to yield some future amount.

### Example 2:

Find the present value for a future amount of \$15,000 after 8 months when money earns 6%.

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### Simple Discount Notes

Interest is deducted in advance from the amount of the loan before giving the balance to the borrower.

Money that is deducted is called the DISCOUNT.

Money actually received is called the PROCEEDS.

$$P = A - D \quad \text{or} \quad P = A(1 - RT)$$

### Example 3:

For a loan of \$5000 with a discount rate of 8.1% and term of 6 months, find the discount, proceeds, and the actual rate of interest paid on the proceeds.

### Example 4:

An account invested in a money market fund grew from \$67,081.20 to \$67,359.39 in a month. What was the interest rate to the nearest tenth?

### Example 5:

Tuition of \$1769 will be due when the Spring term begins in 4 months. What amount should a student deposit today, at 6.25%, to have enough to pay the tuition.