M³ Summer Institutes

(Math, Middle School, MS Common Core)

Simple Interest

Common Core State Standards:

> 7.RP.3

Use proportional relationships to solve multistep ratio and percent problems. *Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.*

> 7.NS.3

Solve real-world and mathematical problems involving the four operations with rational numbers. (Computations with rational numbers extend the rules for manipulating fractions to complex fractions.)

Hook Problem: Vera opened a savings account that pays simple interest at the rate of 5 ¼% per year. If she deposits $2000 and makes no other deposits, find the interest and the final amount for the following time periods:

    a. 1 year
    b. 90 days

Final Answer:

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1. You borrow $300 for 5 years at an annual interest rate of 4%. What is the simple interest you pay in dollars?

$$I = prt$$

2. Find the simple interest you pay on a $220 loan at a 5% annual interest rate for 4 years.

3. You have $500 in an account that earns an annual rate of 5.1%. At the end of each year, you withdraw the interest you have earned. Graph the total interest you earn after 1, 2, 3, and 4 years.

Step 1: Make a table.   Step 2: Draw a graph.

Time (years)	Interest ($)

4. Graph the simple interest earned on $950 at an annual rate of 4.2% for 7 years.

5. Barbara wants to borrow $2000. She can get a loan of $2000 at 7% simple interest for 3 years or at 11% simple interest for 2 years. Which loan costs more?

6. Which earns more interest: $2,000 at 6% interest for 5 years or $2,000 at 5% interest for 6 years? Explain.
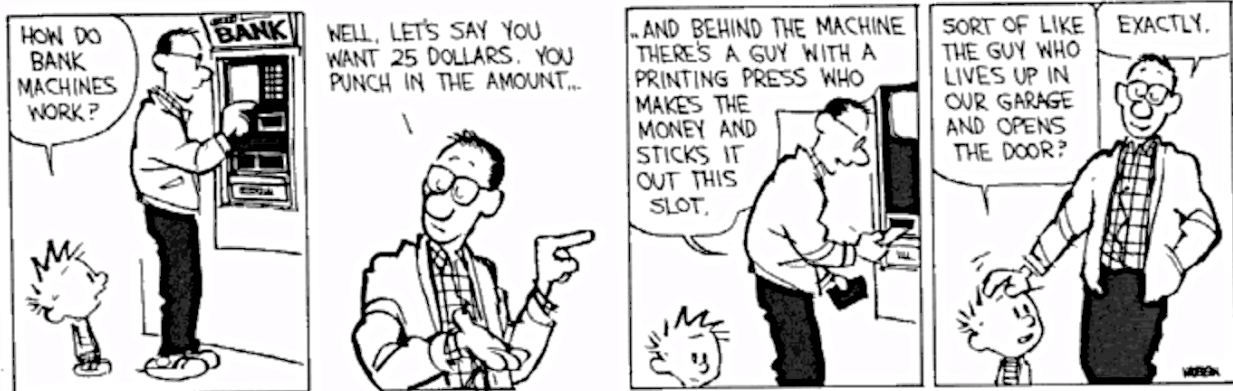
7. You invest $2,000 in a simple interest account. The balance after 8 years is $2,720. What is the interest rate?