

6.7 Simple Interest



Learning Targets

- Finding Interest Earned
- Finding an Annual Interest Rate
- Finding an Amount of Time
- Finding an Amount Paid on a Loan

Interest = the money paid or earned
for the use of the money.

Principal = the amount of money
deposited or borrowed.

Balance = Principal + interest

Simple Interest Formula (I'm Pretty)

\$Interest earned

Annual interest rate (%)
in Decimal Form

$$I = Prt$$

\$Principal

Amt. deposit
Amt borrow

Time in years

t
annual
means
year

Learning
Target 1

Finding Interest Earned

You put \$500 in a savings account. The account earns 3% simple interest per year. (a) What is the interest earned after 3 years? (b) What is the balance after 3 years?

a.

$$I = Prt$$

$$I = 500 \times 0.03 \times 3$$

$$I = \$45$$

b. Total Amt. after adding Interest
balance = \$545

Time can be TRICKY!

Simple Interest is calculated in YEARS

You need to convert Time to Years

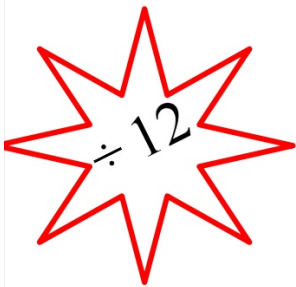
12 months = 1 year

6 months = 0.5 years

18 months = 1.5 years

8 months = .67 years

54 months = 4.5 years



$$\frac{8}{12} = 0.666$$



Learning
Target 2

Finding an Annual Interest Rate

You put \$1000 in an account. The account earns \$100 simple interest in 4 years. What is the annual interest rate?

□

$$I = Prt$$

$$100 = 1000 \cdot r \cdot 4$$

$$\frac{100}{4000} = \frac{4000}{4000} \cdot r$$

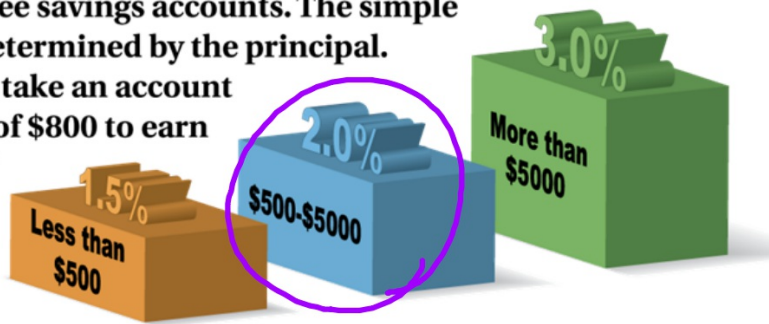
$$r = 0.025 = 2.5\%$$

Learning
Target 3

Finding an Amount of Time

A bank offers three savings accounts. The simple interest rate is determined by the principal. How long does it take an account with a principal of \$800 to earn \$100 in interest?

$$I = Prt$$



$$100 = 800 \cdot 0.02 \cdot t$$

$$\frac{100}{16} = \frac{16t}{16}$$

$$t = 6.25 \text{ yrs}$$

6 yrs &
3 months



Learning
Target 4

Finding an Amount Paid for a Loan

You borrow \$600 to buy a violin. The simple interest rate is 15%. You pay off the loan after 5 years. How much do you pay for the loan?



$$I = Prt$$

$$I = 600 \cdot 0.15 \cdot 5$$

$$+ I = 450$$

balance of Loan \$1050

Homework

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I = Prt

#1-3, 4-10 even,

13-27 odd 28-33