

3-11-19

Aim: SWBAT use the simple interest formula to solve for one of its parts.

HW: Finish Packet Pages 25 - 26

Test Wednesday

Do Now: Packet Page 24

Aim: SWBAT use the simple interest formula to solve for one of its parts.

Do Now: Complete the table.

	Change to a Decimal	Change to Years
1	2% $\frac{2}{100}$ 0.02	3 months $\frac{3}{12} \rightarrow \frac{1}{4}$
2	$2\frac{1}{2}\%$ 0.025	6 months $\frac{1}{2}$
3	5.625% 0.05625	7 months $\frac{7}{12}$
4	$17\frac{3}{4}\%$ 0.1775	15 months $\frac{15}{12} \rightarrow \frac{5}{4}$ 1.25
5	22.75% 0.2275	18 months 1.5 $\frac{1}{2}$

Interest is an amount paid for the use of money. Principal is the amount you borrow or deposit. When interest is paid only on the principal, it is called simple interest. The percent of the principal you pay or earn per year is the annual interest rate.

Finding Simple Interest

$$I = Prt$$

I = \$

P = \$

r = % as a decimal

t = years

Find the amount of simple interest earned.

	A	B	C
6	Principal: \$250 Annual rate: 2% $\rightarrow 0.02$ Time: 3 years $I = Prt$ $I = (250)(0.02)(3)$ $I = \$15$	Principal: \$940 Annual rate: 3.5% $\rightarrow 0.035$ Time: 30 months $\rightarrow \frac{30}{12} \rightarrow 2.5$ $I = Prt$ $I = (940)(0.035)(2.5)$ $I = \$82.25$	Principal: \$620 Annual rate: 3% $\frac{3}{100} = 0.03$ Time: 20 months $\rightarrow \frac{20}{12}$ $I = Prt$ $I = (620)(0.03)(\frac{20}{12})$ $I = \$31$

1. Judy is saving money for a trip that will cost \$1000. She has had \$800 in the bank for a year at $7\frac{1}{2}\%$ annual interest. Does she have enough money for the trip? If not, how much more does she need?

$$I = Prt$$

$$I = (800)(0.075)(1)$$

$$I = \$60$$

$$\text{Total} = P + I$$

$$T = 800 + 60$$

$$T = \$860$$

No, she needs \$140 more.

$$\$1000 - \$860 = \$140$$

2. Sam wants to put a new roof on his house. He plans to borrow the \$15,000^P it will cost. The bank will charge $18\frac{1}{2}\%$ annual interest for two years^T. How much will Sam have to pay back?

$$I = Prt$$

$$I = (15000)(0.185)(2)$$

$$I = 5550$$

$$\text{Total} = P + I$$

$$T = 15000 + 5550$$

$$T = 20550$$

3. Marvin is borrowing \$600 from his father for $2\frac{1}{2}$ years. His father is charging him 5% annual interest. What will Marvin owe his father?

$$I = Prt$$

$$I = (600)(0.05)(2.5)$$

$$I = \$75$$

$$\text{Total} = 600 + 75$$

$$T = \$675$$

4. Mr. Alexander borrows \$14,500 from a bank at $17\frac{1}{2}\%$ annual interest for $3\frac{1}{2}$ years. Is \$8,500 enough to pay back the loan?

5. Sally is saving money for a new car. She has \$6450 in a savings account for $1\frac{1}{2}$ years, earning 0.75% annual interest. Does she have enough to purchase a \$7295 car?

6. Phyllis is borrowing \$1200 for college tuition from her grandmother at 6% annual interest for 2 years. If Phyllis wants to repay the loan in 12 equal payments, how much would each payment be?

7. Mildred borrows \$2500 from the bank at $16\frac{1}{2}\%$ annual interest. The loan is due in $2\frac{1}{2}$ years. Is \$3500 enough to repay the loan when it is due?

8. Sol borrowed \$1100 to repair his car. He has a loan at $15\frac{1}{2}\%$ annual interest for $1\frac{1}{2}$ years. What will he owe when the loan is due?