

Simple Interest

1. A student takes out an emergency loan for \$800.00 to pay for school supplies. The interest rate is 7.5%. How much interest does the student have to pay after 3 months?

2. An investor deposits \$5,000.00 into a savings account for two years. The account pays 7.5% annually. What is the principal after two years?

3. A student needs a 60 day loan for \$800.00. The annual interest rate is 16%. How much does the student owe the lender after the 60 days?

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1. A student takes out an emergency loan for \$800.00 to pay for school supplies. The interest rate is 7.5%. How much interest does the student have to pay after 3 months?

$$I = PRT$$

$$I = ?$$

$$P = 800.00$$

$$R = 0.075$$

$$T = \frac{3}{12} \text{ YEARS} = 0.25 \text{ YEARS}$$

$$I = P \cdot R \cdot T$$

$$I = (800.00)(0.075)(0.25)$$

$$I = \underline{15.00} \quad \text{Amount of Interest}$$

Therefore, after 3 months the student pays back $800.00 + 15.00 = \boxed{\$815.00}$

2. An investor deposits \$5,000.00 into a savings account for two years. The account pays 7.5% annually. What is the principal after two years?

$$I = PRT$$

$$I = ?$$

$$P = \$5,000.00$$

$$R = 0.075$$

$$T = 1 + 1 \text{ YEARS}$$

1st YEAR:

$$I = PRT$$

$$I = (5000.00)(0.075)(1) = 375.00$$

Therefore, after 1 year the principal is now $5000.00 + 375.00 = \underline{5,375.00}$

2nd YEAR:

$$I = PRT$$

$$I = (5,375.00)(0.075)(1) = \underline{403.13}$$

Therefore, after two years the principal is $5,375.00 + 403.13$ which equals \$5,778.13.

3. A student needs a 60 day loan for \$800.00. The annual interest rate is 16%. How much does the student owe the lender after the 60 days?

$$I = PRT$$

$$I = ?$$

$$P = 800.00$$

$$R = 0.16$$

$$T = \frac{60}{360} \text{ years} = \frac{1}{6} \text{ years,}$$

NOTE: In this financial calculation we assume that 360 days = 1 year. But REMEMBER that there are normally 365 days per year EXCEPT for LEAP YEARS which have 366 days!

$$I = PRT$$

$$I = (800.00)(0.16)\left(\frac{1}{6}\right)$$

$$I = \underline{21.33} \rightarrow \text{This is the amount of interest owed!}$$

Therefore, after the 60 days the student OWES the lender $800.00 + 21.33$ which is \$821.33.