

# Simple Interest

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Interest

looking for

Principal

\$ 1,000

Rate

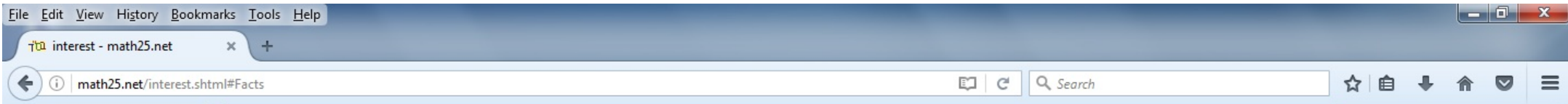
5% per year

Time

18 months = 1.5 years ∴

$$\text{Interest} = \$ 1,000 \cdot 0.05 \cdot 1.5$$

$$= \boxed{\$ 75}$$



## *Simple Interest Formula*

$$\text{Simple Interest} = \text{Principal} \times \text{Annual Interest Rate} \times \text{Years}$$

Unfortunately, this formula is traditionally written in a more confusing manner.

## *Traditional Simple Interest Formula*

$$I = P \times r \times t$$

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*Please be careful with this version of the formula!*

*Remember that the interest it gives is **simple interest**.*

*Remember that the rate is an **annual interest rate** that needs RIP  
LOP.*

*Remember that the time is always **measured in years** and might  
need unit conversion if initially provided in days, weeks, or months.*



12. An loan has a 2% annual simple interest rate. The principal is \$750. How much is it worth five years later?

$$I = P \cdot r \cdot t$$

loan size

$$I = \text{solve for}$$

$$P = \$750$$

$$r = 2\% = 0.02 \text{ per year}$$

$$t = 5 \text{ years}$$

$$\begin{aligned} I &= \$750 \cdot 0.02 \cdot 5 \\ &= \$75 \end{aligned}$$

then

$$\begin{aligned} &\$750 \text{ principal} + \$75 \text{ interest} \\ &= \boxed{\$825} \end{aligned}$$

13. An loan has a 5% annual simple interest rate. The principal is \$400. How much is it worth 200 days later?

$$I = P \cdot r \cdot t$$

$$I = \text{solve for}$$

$$P = 400$$

$$r = 5\% = 0.05$$

$$t = 200 \div 365 = 0.54794$$

$$400 \cdot 0.05 \cdot 0.5479$$

$$10.96 + 400 =$$

$$\$410.96$$