

## Simple Interest

**EXAMPLE**

Chen lends \$3,500 to his sister, Mai, who pays him 5% simple interest each year. At the end of three years Mai will pay back the loan. What is the total amount repaid?

**Step 1** Find the Interest

$$\begin{aligned} \text{Recall } I &= P \times R \times T \\ I &= \$3,500 \times .05 \times 3 \\ &= \$525 \end{aligned}$$

**Step 2** Find the total amount repaid.

$$\begin{array}{r} \$3,500 \\ + \quad 525 \\ \hline \$4,025 \end{array}$$

**Directions** Complete the chart. Round amounts to the nearest cent.

	Principal	Rate	Years	Interest	Total Amount Repaid
1.	\$200	6%	2		
2.	\$1,500	3%	4		
3.	\$2,500	9%	5		
4.	\$1,750	7%	3		
5.	\$1,400	5%	4		
6.	\$800	6%	2		
7.	\$23,000	8%	6		
8.	\$1,500	7.0%	3		
9.	\$10,000	6.5%	7		
10.	\$6,000	9.2%	5		
11.	\$5,000	8.10%	4		
12.	\$10,000	6.125%	10		
13.	\$1,500	7.500%	3		
14.	\$2,500	9.090%	2.5		
15.	\$13,000	5.560%	10.5		
16.	\$8,000	8.135%	8.5		
17.	\$5,000	8.234%	4.5		



## Compound Interest over Two Years

**EXAMPLE**

Principal	Annual Rate	Time in Years
\$500	4%	2

Compute the balance and the total interest. To save time use the rate 104%. This eliminates an adding step. 100% represents the principal and 4% the annual rate.

**Step 1**

$$\begin{array}{r} 100\% \text{ Principal} \\ + 4\% \text{ Annual rate} \\ \hline 104\% \text{ 1st year's interest} \end{array}$$

**Step 2**

$$\begin{array}{r} \$ 500 \text{ Principal} \\ \times 1.04 \\ \hline 20 \ 00 \\ 500 \ 0 \\ \hline \$520.00 \text{ Balance after 1st year} \end{array}$$

**Step 3**

$$\begin{array}{r} \$520 \text{ New balance} \\ \times 1.04 \\ \hline 20 \ 80 \\ 520 \ 0 \\ \hline \$540.80 \text{ Balance after 2nd year} \end{array}$$

**Step 4**

$$\begin{array}{r} \$540.80 \text{ New balance} \\ - 500.00 \text{ Principal} \\ \hline \$40.80 \text{ Interest} \end{array}$$

After two years the balance is \$540.80, and the total interest is \$40.80.

**Directions** Compute the balance and the total interest for each of these 2-year loans. Round to the nearest cent, if necessary.

	Principal	Annual Rate	Balance	Interest		Principal	Annual Rate	Balance	Interest
1.	\$500	3%	_____	_____	12.	\$900	4%	_____	_____
2.	\$600	4%	_____	_____	13.	\$700	7%	_____	_____
3.	\$900	6%	_____	_____	14.	\$1,600	1%	_____	_____
4.	\$400	9%	_____	_____	15.	\$900	4%	_____	_____
5.	\$300	6%	_____	_____	16.	\$500	7%	_____	_____
6.	\$250	2%	_____	_____	17.	\$600	3%	_____	_____
7.	\$360	7%	_____	_____	18.	\$1,200	5%	_____	_____
8.	\$220	8%	_____	_____	19.	\$800	4%	_____	_____
9.	\$850	5%	_____	_____	20.	\$900	2%	_____	_____
10.	\$200	8%	_____	_____	21.	\$400	6%	_____	_____
11.	\$800	7%	_____	_____	22.	\$1,000	1%	_____	_____

