

Compound Interest By Repeating Simple Interest Formula

1. a) \$500 is invested at 2.4% interest **compounded** yearly for 3 years. Use the simple interest formula to calculate the total amount after 3 years.

$$\textcircled{1} I = Prt = 500(0.024)(1) = \$12$$

$$500 + 12 = \$512$$

$$\textcircled{2} I = 512(0.024)(1) = \$12.29$$

$$512 + 12.29 = \$524.29$$

$$\textcircled{3} I = 524.29(0.024)(1) = \$12.58$$

$$\boxed{536.87}$$

- b) If the principal was not compounded, how would the final amount be different?

$$I = Prt = 500(0.024)(3) = 36$$

$$\rightarrow \$536.00$$

- 2) Complete the chart.

\$700 is invested at 9% interest **compounded** annually for 10 years.

Year	Principal	Interest	Total amount
0			700
1	700	$700 \times 0.09 \times 1 = 63$	763
2	763		

$$2) \boxed{1657.15}$$

$$3) \quad 700 \times 0.09 \times 0.5 = 31.50$$

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$$\boxed{1087.08}$$

The interest earned increases year over year.

Loans.