

Example: Find the simple interest to the nearest cent.

\$575 at 6.25% for 7 years

$$\begin{aligned} I &= prt = (575)(0.0625)(7) \\ &= 251.5625 \\ &= \boxed{\$251.56} \end{aligned}$$

Example: Find the simple interest to the nearest cent.

\$12,750 at 5% for 10 years

$$\begin{aligned} I &= prt = (12750)(0.05)(10) \\ &= \boxed{\$6375} \end{aligned}$$

Example: Lucas borrowed \$10,500 to buy a boat. He will pay \$276.50 each month for the next 48 months. Find the simple interest rate for his loan. $\frac{48}{12} = 4$

$$I = prt$$

$$276.50 = 10500 \cdot r \cdot 4$$

$$276.50 = 42000 \cdot r$$

$$276.50 \div 42000 = r$$

$$0.00658333... = r$$

$$0.66\% = r$$

Example: Find the total amount in each account to the nearest cent if the interest is compounded annually.

\$2750 at 8% for 3 years

$$1^{st}: 2750 \cdot 0.08 \cdot 1 = 220$$

$$2750 + 220 = 2970$$

$$2^{nd}: 2970 \cdot 0.08 \cdot 1 = 237.60$$

$$2970 + 237.60 = 3207.60$$

$$3^{rd}: 3207.60 \cdot 0.08 \cdot 1 = 256.608$$

$$3207.60 + 256.608 = 3464.208$$

$$\boxed{3464.21!}$$

Example: Find the total amount in each account to the nearest cent if the interest is compounded annually.

\$1500 at 12.5% for 2 years

$$1^{\text{st}}: 1500 \cdot 0.125 \cdot 1 = 187.5$$

$$1500 + 187.5 = *1687.5$$

$$2^{\text{nd}}: 1687.5 \cdot 0.125 \cdot 1 = 210.9375$$

$$1687.5 + 210.9375 = 1898.4375$$

$\$1898.44$

Example: What is the total amount of money in an account where \$4000 is invested at an interest rate of 3.5% compounded annually after 3 years?

$$1^{\text{st}}: (4000)(0.035)(1) = 140$$

$$4000 + 140 = *4140$$

$$2^{\text{nd}}: (4140)(0.035)(1) = 144.9$$

$$4140 + 144.9 = *4284.9$$

$$3^{\text{rd}}: (4284.9)(0.035)(1) = 149.9715$$

$$4284.9 + 149.9715 = 4434.8715$$

$\$4434.87$