

Assignment 5.4

$$I = prt$$

① a. $4,000 (.06) (4) = \boxed{\$960}$ and $4,000 + 960 = \boxed{\$4,960}$

b. $4,000 (.06) \left(\frac{4}{12}\right) = \boxed{\$80}$ and $4,000 + 80 = \boxed{\$4,080}$

c. $4,000 (.06) \left(\frac{4}{365}\right) = \boxed{\$2.63}$ and $4,000 + 2.63 = \boxed{\$4,002.63}$

③ $I = Prt$

$$120 = P(.08) \left(\frac{9}{12}\right)$$

$$\frac{120}{.06} = \frac{P(.06)}{.06} \quad P = \boxed{\$2,000}$$

④ $I = Prt$

$$10,000 = 80,000 r (2)$$

$$\frac{10,000}{160,000} = \frac{160,000 r}{160,000} \quad r = .0625 = \boxed{6.25\%}$$

⑤ $I = Prt$

$$I = 720 (.06) (5) = \boxed{\$216}$$

$$\text{Amount} = P + I = 720 + 216 = \boxed{\$936}$$

⑦ $I = Prt$

$$I = 720 (.06) \left(\frac{5}{365}\right) = \boxed{.59}$$

$$\text{Amount} = P + I = 720 + .59 = \boxed{\$720.59}$$

$$\textcircled{9} \quad I = Prt$$

$$I = 26,968.44 (.03459) \left(\frac{91}{365}\right) = \boxed{\$232.57}$$

$$\text{Amount} = 26,968.44 + 232.57 = \boxed{\$27,201.01}$$

$$\textcircled{11} \quad I = Prt$$

$$I = 2,430 (.0675) \left(\frac{65}{365}\right) = \boxed{\$29.21}$$

$$\text{Amount} = 2,430 + 29.21 = \boxed{\$2,459.21}$$

$$\textcircled{13} \quad I = Prt$$

$$10,000 = P \left(\frac{.0475}{.0475}\right) \left(\frac{90}{365}\right) \left(\frac{.0475}{.0475}\right) \left(\frac{90}{365}\right)$$

This ensures accuracy!

$$\boxed{P = \$853,801.17}$$

$$\textcircled{15} \quad I_A = 9,364.85 (.04) \left(\frac{1}{365}\right) = \text{Interest A } \boxed{\$1.02628}$$

$$I_B = 8,364.85 (.04) \left(\frac{1}{365}\right) = .916695$$

$$I_C = 6,364.85 (.04) \left(\frac{1}{365}\right) = .697517$$

$$I_D = 4,364.85 (.04) \left(\frac{1}{365}\right) = .478339$$

$$\text{Total Interest} = 5(1.02628) + 12(.916695) + 10(.697517) + 3(.478339)$$
$$= \boxed{\$24.54}$$

Note: The longer the decimals used, the more accurate your answer will be.

$$\textcircled{17} \quad \frac{1 \cdot 25}{4 \cdot 25} = \frac{25}{100} = 25\% = \boxed{.25}$$

$$\textcircled{19} \quad 6\frac{1}{4} = \boxed{6.25}$$

$$\textcircled{21} \quad \text{a. } \frac{72,400}{12} = \boxed{\$6,033.33}$$

$$\text{b. } \frac{72,400}{52} = \boxed{\$1,392.31}$$