

AAT Word Problems 1.3 Examples

1. You invested \$15,000 in 2 different accounts. One has 4.5% simple interest and then other has 4% simple interest. In one year you made \$640. How much did you invest in each account?

$$\begin{aligned}
 &\text{acct 1} \qquad \qquad \text{acct 2} \\
 &0.045x + 0.04(15000 - x) = 640 \\
 &0.045x + 600 - 0.04x = 640 \\
 &0.005x = 40 \\
 &x = 8000
 \end{aligned}$$

\$ 8000 acct 1
\$ 7000 acct 2

2. One positive number is 5 times another number. The difference between the two numbers is 148. Find the 2 numbers.

$$\begin{aligned}
 &x - y = 148 \\
 &\text{Prius} \rightarrow \frac{1}{5}x - 5x = 148 \\
 &\rightarrow 5x - x = 148 \\
 &4x = 148 \\
 &x = 37
 \end{aligned}$$

37 & 185

3. An automobile dealer has \$600,000 of inventory in WRX's and Prius'. The profit on a WRX is 24% and the profit on a Prius is 28%. The profit for the entire stock is 25%. How much was invested in each type of vehicle?

$$\begin{aligned}
 &\text{WRX} + \text{Prius} = \text{TOTAL} \\
 &0.24x + 0.28(600,000 - x) = 0.25(600,000) \\
 &0.24x + 168,000 - 0.28x = 150,000 \\
 &-0.04x + 168,000 = 150,000 \\
 &-0.04x = -18,000 \\
 &x = 450,000
 \end{aligned}$$

450K WRX
150K Prius