

①	\$6,000 to invest	Fund 1	<u>A. Int</u> 5%	\$380 interest
		Fund 2	9%	

System of Equations

1.) Define the variables

x = amount of money invested in Fund 1

y = amount of money invested in Fund 2

2.) Write equations

$$x + y = 6000$$

$$0.05x + 0.09y = 380$$

Totals

\$ to invest

interest

3.) Solve (Substitution)

$$\begin{array}{r} x + y = 6000 \\ -y \quad -y \\ \hline x = 6000 - y \end{array}$$

$$x = 6000 - 2000$$

$$x = 4000$$

$$0.05x + 0.09y = 380$$

$$0.05(6000 - y) + 0.09y = 380$$

$$300 - 0.05y + 0.09y = 380$$

$$300 + 0.04y = 380$$

$$\begin{array}{r} 300 + 0.04y = 380 \\ -300 \quad \quad -300 \\ \hline 0.04y = 80 \end{array}$$

$$\frac{0.04y}{0.04} = \frac{80}{0.04}$$

$$y = 2000$$

\$4000 into Fund 1

\$2000 into Fund 2

You split \$1500 between two savings accounts. Account A pay 5% annual interest. Account B pays 4% annual interest. After one year, you have earned a total of \$69.50 in interest. How much money did you invest in each account? Explain.

DTV : $x =$ money invested in account A
 $y =$ money invested in account B

$$x + y = 1500 \quad \text{Invest}$$

$$0.05x + 0.04y = 69.50 \quad \text{Interest}$$

$$\begin{array}{r} x + y = 1500 \\ -y \quad -y \\ \hline x = 1500 - y \\ x = 1500 - 550 \\ x = 950 \end{array}$$

\$950 Acct. A

\$550 Acct. B

$$\begin{array}{r} 0.05x + 0.04y = 69.50 \\ 0.05(1500 - y) + 0.04y = 69.50 \\ 75 - 0.05y + 0.04y = 69.50 \\ 75 - 0.01y = 69.50 \\ -75 \quad \quad \quad -75.00 \\ \hline -0.01y = -5.50 \\ \frac{-0.01y}{-0.01} = \frac{-5.50}{-0.01} \\ y = 550 \end{array}$$