

PROBLEMS INVOLVING PERCENT

① INVESTMENT

$$I = P \cdot r$$

P = PRINCIPAL

r = RATE (AS DECIMAL/FRACTION)

Ex 1 \$10,000 → 2 ACCOUNTS

7% 8%

INTEREST \$785

	P	r	= I
1 st	x	0.07	0.07x
2 nd	10,000 - x	0.08	0.08(10,000 - x)
			785

$$0.07x + 0.08(10,000 - x) = 785$$

$$\underline{0.07x} + 800 - \underline{0.08x} = 785$$

$$800 - 0.01x = 785$$

$$-800$$

$$\underline{-0.01x} = \underline{-15}$$

$$\underline{-0.01}$$

$$x = \frac{1500}{1} = \underline{\underline{1500}}$$

1st : \$1,500

2nd : \$8,500

Ex 2

\$18,000

4% , 6%

	P	r	I
1 st	x	0.04	0.04x
2 nd	18,000 - x	0.06	0.06(18,000 - x)

$$0.04x = 0.06(18,000 - x)$$

$$0.04x = 1,080 - 0.06x$$

$$0.06x$$

$$\frac{0.10x}{0.10} = \frac{1,080}{0.10}$$

$$x = \frac{10,800}{1} = \underline{\underline{10,800}}$$

1st : \$10,800

2nd : \$7,200

② PERCENT MIXTURE PROBLEMS

Ex 1 15% SOLUTION
 20% SOLUTION, 4 gal
 MIXTURE 17%

	AMOUNT	• %	= QUANTITY
1 st	x	0.15	0.15x
2 nd	4	0.20	0.8
M	x+4	0.17	0.17(x+4)

$$0.15x + 0.8 = 0.17(x+4)$$

$$0.15x + 0.8 = 0.17x + 0.68$$

$$-0.15x \qquad -0.15x$$

$$0.80 = 0.02x + 0.68$$

$$0.68 \qquad -0.68$$

$$\frac{0.12}{0.02} = \frac{0.02x}{0.02}$$

$$\frac{12}{2} = x$$

$$x = 6$$

Ex 2

	A	• %	= Q
1 st	x	1	x
2 nd	5	0.10	0.5
17	x+5	0.25	0.25(x+5)

$$x + 0.5 = 0.25(x + 5)$$

$$x + 0.5 = 0.25x + 1.25$$

$$-0.25x$$

$$-0.25x$$

$$\begin{array}{r} 0.75x + 0.5 = 1.25 \\ -0.5 \quad -0.5 \end{array}$$

$$\begin{array}{r} 0.75x \\ \hline 0.75 \end{array}$$

$$x = 1 \text{ gr}$$

$$\begin{array}{r} 1.00 - \\ \hline 0.25 \end{array}$$

$$\begin{array}{r} 0.75 \\ \hline 0.75 \end{array}$$