

Extra App Problems \Rightarrow Solutions

#1) $X = \#$ of adult tickets sold
 $Y = \#$ of Kids " "

$$X + Y = 261$$

$$10X + 4.50Y = 2324$$

$$\underline{X = 209} \quad \underline{Y = 52}$$

#2) $C = \text{Carlos age today}$
 $S = \text{Sara's age today}$

$$C = 3S$$

$$C + 13 = 2(S + 13)$$

$$\underline{C = 39} \quad \underline{S = 13}$$

#3) $X = \text{Amount in } 10\% \text{ Acct}$
 $Y = \text{ " " } 8\% \text{ Acct}$

$$X + Y = 19000$$

$$0.10X + 0.08Y = 1760$$

$$\underline{X = 12000} \quad \underline{Y = 7000}$$

#4) $X = \text{flat rate}$
 $Y = \text{cost per word}$

$$X + 5Y = 11.65$$

$$X + 9Y = 14.57$$

$$\underline{X = 8} \quad \underline{Y = 0.73}$$

* #5) $S = \#$ of Small Cups
 $M = \#$ of Medium Cups
 $L = \#$ of Large Cup

$$S + M + L = 34$$

$$0.95S + 1.15M + 1.50L = 39.60$$

$$10S + 14M + 20L = (5)(96)$$

$$\underline{S = 8} \quad \underline{M = 20} \quad \underline{L = 6}$$

* #6) $X = \text{amount in } 10\% \text{ inv}$
 $Y = \text{ " " } 12\% \text{ "}$
 $Z = \text{ " " } 16\% \text{ "}$

$$X + Y + Z = 25000$$

$$0.10X + 0.12Y + 0.16Z = 3200$$

$$0.10X + 0.12Y = 0.16Z$$

$$\underline{X = 10000} \quad \underline{Y = 5000} \quad \underline{Z = 10000}$$

#7) $X = \text{amount of Solution A (6\%)}$
 $Y = \text{ " " " B (3.5\%)}$

$$X + Y = 20$$

$$0.06X + 0.035Y = 20(0.05)$$

$$\underline{X = 12} \quad \underline{Y = 8}$$

#8) $X = \#$ of Nickels
 $Y = \#$ of Dimes

$$X + Y = 312$$

$$0.10X + 0.05Y = 3.30$$

$$\underline{X = 24} \quad \underline{Y = 18}$$

* #9) $X = \#$ of Quarters
 $Y = \#$ ~~Nickels~~ Dimes
 $Z = \#$ Nickels

$$0.25X + 0.10Y + 0.05Z = 16.45$$

$$X + Y + Z = 120$$

$$X + 5 = Z$$

$$\underline{X = 47} \quad \underline{Y = 21} \quad \underline{Z = 53}$$

#10) $Y = mx + b$

$$(2, -5) \quad -5 = 2m + b$$

$$(-7, 0) \quad 0 = -7m + b$$

$$\underline{m = -\frac{5}{9}}$$

$$\underline{b = -\frac{35}{9}}$$

#11) $\underline{X = 18} \quad \underline{Y = 24}$