HW: Green text p. 429 & 430
#s 3, 5, 17-25 (odds) 1/25

ans

3.) Let x = smaller # = 6
y = larger # = 30

$$\begin{aligned} x + y &= 36 \\ * \quad y - x &= 24 \\ \hline 2y &= 60 \\ \frac{2y}{2} &= \frac{60}{2} \\ y &= 30 \end{aligned}$$

subtract smaller from larger

$$\begin{aligned} x + y &= 36 \\ x + 30 &= 36 \\ -30 & \quad -30 \\ \hline x &= 6 \end{aligned}$$

5.) Let x = smaller #
y = larger #

$$\begin{aligned} x + y &= 104 \\ y &= 2x - 1 \end{aligned}$$

$$\begin{aligned} x + (2x - 1) &= 104 \\ x + 2x - 1 &= 104 \\ 3x - 1 &= 104 \\ +1 & \quad +1 \\ \hline \frac{3x}{3} &= \frac{105}{3} \\ x &= 35 \\ y &= 2(35) - 1 \\ y &= 70 - 1 \\ y &= 69 \end{aligned}$$

17.) Let x = \$ pretzel
y = \$ soda

$$\begin{aligned} 3x + y &= 2.75 \\ -1(2x + y &= 2.00) \end{aligned}$$

$$\begin{aligned} 3x + y &= 2.75 \\ -2x - y &= -2 \\ \hline x &= 0.75 \end{aligned}$$

$$\begin{aligned} 2x + y &= 2 \\ 2(0.75) + y &= 2 \\ 1.5 + y &= 2 \\ -1.5 & \quad -1.5 \\ \hline y &= 0.50 \end{aligned}$$

pretzel \$ = \$0.75
soda \$ = \$0.50

19) Let $x = \$$ bat $= \$9$
$y = \$$ ball $= \$4.50$

$-3(4x + 9y = 76.50) \rightarrow -12x - 27y = -229.5$
$4(3x + 12y = 81) \rightarrow 12x + 48y = 324$

$\frac{21y}{21} = \frac{94.5}{21}$

$y = 4.50$

$3x + 12y = 81$
$3x + 12(4.50) = 81$
$3x + 54 = 81$
$-54 \quad -54$

$\frac{3x}{3} = \frac{27}{3}$

$x = 9$

21) Let $x = \$$ brown rice $= \$2.50$
$y = \$$ basmati rice $= \$2.90$

$2(4x + 3y = 18.70) \rightarrow 8x + 6y = 37.4$
$-3(3x + 2y = 13.30) \rightarrow -9x - 6y = -39.9$

$-x = -2.5$

$x = 2.5$

$3x + 2y = 13.30$
$3(2.5) + 2y = 13.30$
$7.5 + 2y = 13.30$
$-7.5 \quad -7.5$

$\frac{2y}{2} = \frac{5.8}{2}$

$y = 2.9$

23.) Let x = # 33 racquets = 80
y = # 18 racquets = 120

$x + y = 200 \rightarrow y = 200 - x$
$33x + 18y = 4{,}800$

$33x + 18(200 - x) = 4800$
$33x + 3600 - 18x = 4800$
$15x + 3600 = 4800$
$-3600 \quad -3600$
$\frac{15x}{15} = \frac{1200}{15}$
$x = 80$

$x + y = 200$
$80 + y = 200$
$-80 \quad -80$
$y = 120$

25.) Let x = # 39¢ stamps = 6
y = # 24¢ stamps = 9

$0.39x + 0.24y = 4.5$
$x = y - 3$

Clear decimals

$0.39(y - 3) + 0.24y = 4.5$
$100 \times [0.39y - 1.17 + 0.24y = 4.5]$
$39y - 117 + 24y = 450$
$63y - 117 = 450$
$+117 \quad +117$
$\frac{63y}{63} = \frac{567}{63}$
$y = 9$

$x = y - 3$
$x = 9 - 3$
$x = 6$