Problem 5.10)

$C + P = 34$

$C = P + 14$

$P + 14 + P = 34$

$2P = 20$

$P = \boxed{10}$

Problem 5.11)

N: # of Nickels

q: # of quarters

$90N = 1P$

$N = \frac{P}{90}$

$\frac{1}{20}N + \frac{1}{4}q = 9.15 \xrightarrow{\times \frac{1}{2}} \frac{1}{40}N + \frac{1}{8}q = \frac{183}{40}$

$\frac{N}{90} + \frac{q}{80} = 1 \xrightarrow{\times 10} -\frac{1}{9}N + \frac{1}{8}q = 10$

$-\frac{31}{360}N = -\frac{217}{40}$

$N = 7 \cdot 9$

$N = \boxed{63}$

Problem 5.12)

$x + 2y = 361$

$+ \quad 2x + y = 362$

$3x + 3y = 723$

$x + y = \boxed{241}$

$723 \div 3 = 241$

6

12

12

03

Problem 5.13)

$$11(b-2) = 9(c-2)$$

$$b = 7c$$

$$(b+a) = 5(c+a)$$

$$b+a = 5c+5a$$

$$b-5c = 4a$$

$$\frac{56-40}{4} = a$$

$$\boxed{4} = a$$

1) $b-2 = 9c-18$

$b-9c = -16$

$7c-9c = -16$

$-2c = -16$

$c = 8$

$b = 56$

Exercises

5.4.1) $x+2y = 361$

$+\quad 2x+y = 362$

$3x+3y = 723$

$x+y = 241$

$x = 241-y$

$241-y+2y = 361$

$y = \underline{120 \text{ pounds}}$

$x = 241-120$

$x = \underline{121 \text{ pounds}}.$

5.4.2)

p: Pigs

c: chickens

$4p+2c = 40$

$4(16-c)+2c = 40$

$p + c = 16$

$p = 16 - c$

$64 - 4c + 2c = 40$

$-2c = -24$

$c = \boxed{12}$

S.4.3)

$E + B = 9(B - E) \rightarrow E + B = 9B - 9E$

$10E = 8B$

$5E = 4B$

$\frac{5}{4}E = B$

$\frac{5}{4}(120) = B$

$\boxed{150} = B$

$(B - E) = E + B - 240$

$240 = 2E$

$120 = E$

S.4.4)

$$\begin{array}{r} 5g + 2r = 10 \\ + \quad 1g + 4r = 7 \\ \hline 6g + 6r = 17 \end{array} \xrightarrow{\times 4/3} 8g + 8r = 17\left(\frac{4}{3}\right)$$

$= \frac{68}{3}$ pounds $= 22.\overline{6}$

S.4.5)

$a + 15 = 60 + b$

$a = 6b$

$6b + 15 = 60 + b$

$5b = 45$

$b = 9$

$\boxed{3:09}$