

34)  
 \* There are 2 ways to do #34. This is one of those ways. Check your final Answer.

Types of coins

Dimes  
 Nickels

# of coins

d

$34 - d$   
 (the difference)

total: 34

Value

$  \begin{array}{r}  0.10d \\  + \\  0.05(34-d) \\  \hline  \$ 2.05  \end{array}  $
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The other way:

Dimes:  $34 - n$

Nickels:  $n$

$0.10(34 - n) + 0.05n$

Equation:

Eliminate Decimals.  $(100)0.10d + (100)0.05(34 - d) = (100)2.05$

Simplify.  $10d + 5(34 - d) = 205$

Combine like terms.  $\underline{10d} + 170 - \underline{5d} = 205$

Solve 2-step equation:  $5d + 170 = 205$   
 $-170 \quad -170$

$\frac{5d}{5} = \frac{35}{5}$

$d = 7$

Answer  
 Dimes: (7)  
 Nickels: (27)

check:

$7 \times 0.10 = 0.70$   
 $27 \times 0.05 = 1.35$   
 $2.05 \checkmark$

35)

<u>Types of coins</u>	<u># of coins</u>	<u>Value</u>
Dimes	$q+4$	$0.10(q+4)$
Quarters	$q$	$0.25q$
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		Total: \$2.85

Equation:

Eliminate  
Decimals:

$$(100) 0.10(q+4) + (100) 0.25q = 2.85(100)$$

simplify.

$$10(q+4) + 25q = 285$$

combine

$$\underline{10}q + 40 + \underline{25}q = 285$$

Solve.

$$\begin{array}{r} 35q + 40 \\ -40 \\ \hline \end{array} = \begin{array}{r} 285 \\ -40 \\ \hline \end{array}$$

$$\frac{35q}{35} = \frac{245}{35}$$

$$q = 7$$

Answer  
 Quarters: (7)  
 Dimes: (11)

Check

$$\begin{array}{r} 7 \times 0.25 = 1.75 \\ 11 \times 0.10 = 1.10 \\ \hline \$2.85 \checkmark \end{array}$$

36)	Types of coins	# of coins	Value
	Dimes	$q+5$	$0.10(q+5)$
	Quarters	$q$	$0.25q$
	Nickels	$q-4$	$0.05(q-4)$
			<hr/>
			total 4.70

Answer

Quarters: (11)  
 Dimes: (16)  
 Nickels: (7)

Equation:  $(100)0.10(q+5) + (100)0.25q + (100)0.05(q-4) = 4.70(100)$

Eliminate decimals  $10(q+5) + 25q + 5(q-4) = 470$

Simplify/combine  $\underline{10q+50} + \underline{25q} + \underline{5q-20} = 470$

Solve.  $40q + 30 = 470$   
 $\quad \quad -30 \quad \quad -30$

$\frac{4q}{4} = \frac{440}{4}$

$q = 11$

check:

$11 \times .25 = 2.75$   
 $16 \times .10 = 1.60$   
 $7 \times .05 = 0.35$   


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 $4.70 \checkmark$

31) \* Notice this problem deals with Rolls of coins instead of individual coins. The values for rolls of coins is given.

	Types of coins	# of rolls	Value of rolls
\$10/roll →	Quarters	$3n$	$10(3n)$
\$5/roll →	Dimes	$2n$	$5(2n)$
\$2/roll →	Nickels	$n$	$2(n)$
			<hr/>
			\$252

Equation:  $10(3n) + 5(2n) + 2(n) = 252$

Simplify:  $\underline{30n} + \underline{10n} + \underline{2n} = 252$

Combine:  $\frac{42n}{42} = \frac{252}{42}$

Solve:  $n = 6$

Answer  
Rolls of...  
Nickels (6)  
Dimes (12)  
Quarters (18)

Check

$$\begin{array}{r} 6 \times 2 = 12 \\ 12 \times 5 = 60 \\ 18 \times 10 = 180 \\ \hline 252 \checkmark \end{array}$$