Coin Problems

Mary has six fewer quarters than pennies. Mary has a total of $5.00. How many of each coin does she have?

# of Quarters: $X-6$

# of Pennies: X

For money problems, mult. all the coin values by 100 (to move decimal pt 2 places right).

Value → 25, Quantity → $(X-6)$

$500 = 25(X-6) + 1X$

$500 = 25x - 150 + X$

$500 = 26X - 150$

$+150 \qquad +150$

$650 = 26X$

$\frac{650}{26} = \frac{26X}{26}$

$X = 25$

She has 25 pennies and 19 quarters

Emma has twenty-four fewer quarters than dimes. Emma has a total of forty-two dimes and quarters. How many of each coin does she have?

# of quarters = X - 24 = 9 quarters.

# of dimes. = X = 33 Dimes

$$42 = X + X - 24$$

$$42 = 2X - 24$$

$$+24 \qquad +24$$

$$\frac{66}{2} = \frac{2X}{2} \qquad X = 33$$

Hannah has a total of fifteen nickels and dimes. She has seven more dimes than nickels.
How many of each coin does she have?

# of nickels: $x = 4$

# of dimes: $x + 7 = 11$

$15 = x + x + 7$

$15 = 2x + 7$

$-7 \quad -7$

$\frac{8}{2} = \frac{2x}{2} = 4$

She has 4 nickels & 11 dimes

Brittany has fourteen fewer quarters than pennies. Brittany has a total of $2.74. How many of each coin does she have?

# of quarters: $X-14$

# of pennies: X

value

quantity

$$274 = 1X + 25(X-14)$$

$$274 = X + 25X - 350$$

$$274 = 26X - 350$$

$$+350 \quad = \quad +350$$

$$\frac{624}{26} = \frac{26X}{26}$$

$X = 24$

She has 24 pennies & 10 quarters.

Jonathan has a total of thirty-three pennies and dimes. The total value of the coins is $1.59. How many of each coin does he have?

# of dimes: $33-X$ (14 dimes)

# of pennies: X = (19 pennies)

33	
X	$33-X$

$$159 = 10(33-X) + 1(X)$$

$$159 = 330 - 10X + X$$

$$159 = 330 - 9X$$

$$-330 = -330$$

$$\frac{-171}{-9} = \frac{-9X}{-9}$$

$X = 19$

Rachel has four times as many nickels as pennies. The total value of the coins is $3.15. How many of each coin does she have?

Nickels = $4x$

Pennies = x

$$315 = 5(4x) + 1(x)$$

$$\frac{315}{21} = \frac{21x}{21}$$

$$x = 15$$

If Sarah had ten fewer quarters, she would have four times as many quarters as nickels. The total value of the coins is $13. How many of each coin does she have?

# of Q = 4X + 10 ⟶ 50 quarters

# of N = X ⟶ Ten nickels

$$1300 = 25(4X+10) + 5(X)$$

$$1300 = 100X + 250 + 5X$$

$$1300 = 105X + 250$$

$$\frac{1050}{105} = \frac{105X}{105}$$

$$X = 10$$

Zachary has a total of thirty-seven nickels and quarters. The quarters come to $5.95 more than the nickels. How many of each coin does he have?

Nickels = x $\Rightarrow$ 11 Nickels

Quarters = $37 - x$ $\Rightarrow$ 26 Quarters

37	
x	$37-x$

$$5(x) + 595 = 25(37-x)$$

$$5x + 595 = 925 - 25x$$

$$-595 \quad -595$$

$$5x = 330 - 25x$$

$$+25x \quad +25x$$

$$30x = 330$$

$$x = 11$$

Steven has $17.05 in dimes and quarters. Steven has six more quarters than dimes. How many of each coin does he have?

A collection of coins has a value of 64 cents. There are two more nickels than dimes and three times as many pennies as dimes. How many of each kind of coin are there?

Tanya has ten bills in her wallet. She has a total of $40. If she has one more $5 bill than $10 bills, and two more $1 bills than $5 bills, how many of each does she have? There are two ways this problem can be solved….