

Solving Coin Problems

To Solve coin problems, we must be aware of three facts.

1. The number of coins we have
2. The value of each coin
3. The total value of each type of coin

Ex: Kelly received a play purse from her Grandfather that contained 25 coins worth \$2.00. If the purse contains only nickels and dimes, how many of each coin are in the purse?

Let x = number of nickels

$25 - x$ = number of dimes

type of coin	number of each coin	value of each coin	total value
nickels	x	.05	$5x$
dimes	$25 - x$.10	$10(25 - x)$

The total value of the nickels + The total value of the dimes = The total value of the coins

$$\begin{aligned}
 .05x + .10(25 - x) &= 2.00 \\
 .05x + 2.50 - .10x &= 2.00 \\
 -.05x + 2.50 &= 2.00 \\
 -.05x &= -.50 \\
 x &= 10
 \end{aligned}$$

There are 10 nickels and 15 dimes in the purse.

Sample Problems:

1. Josephine has \$7.70 consisting of dimes and quarters. The number of quarters is two more than twice the number of dimes. How many of each kind does she have?
2. DeKalb College's music department sold tickets for a concert recital. Tickets cost \$1.00 if purchased in advance and \$2.50 if purchased at the door. If the total number of tickets sold was 488, and the amount of money received was \$800, how many tickets of each kind were sold?
3. Manuel has 3 times as many quarters as dimes totaling \$6.80. How many of each coin does he have?
4. Jerry, the postal clerk, sold 80 stamps for \$19.10. Some were 20 cent stamps and some were 30 cent air grams. How many of each kind did he sell?

Answers:

1. 12 dimes and 26 quarters
2. 280 of \$1.00 tickets and 208 of \$2.50 tickets
3. 8 dimes and 24 quarters
4. 49 of the 20 cent stamps and 31 of the 30 cent stamps