

**Solution.**

Let  $x$  be the number of 50-rupee notes,  $y$  be the number of 20-rupee notes,  $z$  be the number of 10-rupee notes.

Solve this problem by using a system of equations. So

$$\begin{cases} 50x + 20y + 10z = 590 \\ \frac{x}{y} = \frac{3}{5} \\ x + y + z = 25 \end{cases}$$

Solve the following system:

$$\begin{cases} 50x + 20y + 10z = 590 \\ 5x - 3y = 0 \\ x + y + z = 25 \end{cases}$$

Subtract  $\frac{1}{10} \times$  (equation 1) from equation 2 :

$$\begin{cases} 50x + 20y + 10z = 590 \\ -5y - z = -59 \\ x + y + z = 25 \end{cases}$$

Divide equation 1 by 10:

$$\begin{cases} 5x + 2y + z = 59 \\ -5y - z = -59 \\ x + y + z = 25 \end{cases}$$

Multiply equation 2 by  $-1$ :

$$\begin{cases} 5x + 2y + z = 59 \\ 5y + z = 59 \\ x + y + z = 25 \end{cases}$$

Subtract  $\frac{1}{5} \times$  (equation 1) from equation 3:

$$\begin{cases} 5x + 2y + z = 59 \\ 5y + z = 59 \\ \frac{3y}{5} + \frac{4z}{5} = \frac{66}{5} \end{cases}$$

Multiply equation 3 by 5:

$$\begin{cases} 5x + 2y + z = 59 \\ 5y + z = 59 \\ 3y + 4z = 66 \end{cases}$$

Subtract  $\frac{3}{5} \times$  (equation 2) from equation 3:

$$\begin{cases} 5x + 2y + z = 59 \\ 5y + z = 59 \\ \frac{17z}{5} = \frac{153}{5} \end{cases}$$

Multiply equation 3 by  $\frac{5}{17}$ :

$$\begin{cases} 5x + 2y + z = 59 \\ 5y + z = 59 \\ z = 9 \end{cases}$$

Substitute  $z$  into equation 1 and equation 2:

$$\begin{cases} 5x + 2y = 50 \\ 5y = 50 \\ z = 9 \end{cases}$$

$$\begin{cases} 5x + 2y = 50 \\ y = 10 \\ z = 9 \end{cases}$$

Substitute  $y$  into equation 1:

$$\begin{cases} 5x = 30 \\ y = 10 \\ z = 9 \end{cases}$$

$$\begin{cases} x = 6 \\ y = 10 \\ z = 9 \end{cases}$$

**Answer:** he has 9 currency notes in the denomination of Rs. 10.