Exercise 3E

Question 3:
Let the number of 20 P and 25 P coins be x and y respectively
Total number of coins x + y = 50
i.e., x + y = 50 ---(1)

$$\text{Value of these coins} = \text{Rs}\left(\frac{x}{5}+\frac{y}{4}\right) = \text{Rs } 11.50 = \text{Rs } 11\frac{1}{2}$$

$$\therefore \quad \frac{x}{5}+\frac{y}{4}=\frac{23}{2}$$

$$\Rightarrow \quad 4x+5y=230 \quad ---(2)$$

Multiplying (1) by 5 and (2) by 1, we get
5x + 5y = 250 ---(3)
4x + 5y = 230 ---(4)
Subtracting (4) from (3), we get
x = 20
Putting x = 20 in (1),
y = 50 - x
= 50 - 20
= 30
Hence, number of 20 P coins = 20 and number of 25 P coins = 30

Question 4:
Let the two numbers be x and y respectively.
Given:
x + y = 137 ---(1)
x - y = 43 ---(2)
Adding (1) and (2), we get
2x = 180
x = 180/2 = 90
Putting x = 90 in (1), we get
90 + y = 137
y = 137 - 90
= 47
Hence, the two numbers are 90 and 47.

Question 5:
Let the first and second number be x and y respectively.
According to the question:
2x + 3y = 92 ---(1)
4x - 7y = 2 ---(2)
Multiplying (1) by 7 and (2) by 3, we get
14 x+ 21y = 644 ---(3)
12x - 21y = 6 ---(4)
Adding (3) and (4), we get
26x = 650
x = 650/26 = 25
Putting x = 25 in (1), we get
2 × 25 + 3y = 92
50 + 3y = 92
3y = 92 - 50
y = 42/3 = 14
y = 14

********** END **********