Exercise 3E

Question 1:

Let the cost of 1 chair be Rs x and the cost of one table be Rs. y

The cost of 5 chairs and 4 tables = Rs(5x + 4y) = Rs. 2800

5x + 4y = 2800 —(1)

The cost of 4 chairs and 3 tables = Rs(4x + 3y) = Rs. 2170

4x + 3y = 2170 —(2)

Multiplying (1) by 3 and (2) by 4, we get

15x + 12y = 8400 —(3)

16x + 12y = 8680 —(4)

Subtracting (3) and (4), we get

x = 280

Putting value of x in (1), we get

5 × 280 + 4y = 2800

or 1400 + 4y = 2800

or 4y = 1400

$y = \frac{1400}{4} = 350$

Thus, cost of 1 chair = Rs. 280 and cost of 1 table = Rs. 350

Question 2:

Let the cost of a pen and a pencil be Rs x and Rs y respectively

Cost of 37 pens and 53 pencils = Rs(37x + 53y) = Rs 820

37x + 53y = 820 —(1)

Cost of 53 pens and 37 pencils = Rs(53x + 37y) = Rs 980

53x + 37y = 980 —(2)

Adding (1) and (2), we get

90x + 90y = 1800

x + y = 20 —(3)

y = 20 − x

Putting value of y in (1), we get

37x + 53(20 − x) = 820

37x + 1060 − 53x = 820

16x = 240

$x = \frac{240}{16} = 15$

From (3), y = 20 − x = 20 − 15 = 5

x = 15, y = 5

Thus, cost of a pen = Rs 15 and cost of pencil = Rs 5

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