Exercise 3E

Question 6:
Let the first and second numbers be x and y respectively.
According to the question:
3x + y = 142 ---(1)
4x - y = 138 ---(2)
Adding (1) and (2), we get
7x = 280
x = 280/7 = 40
Putting x = 40 in (1), we get
3 × 40 + y = 142
y = 142 - 120
y = 22
Hence, the first and second numbers are 40 and 22.

Question 7:
Let the greater number be x and smaller be y respectively.
According to the question:
2x - 45 = y
2x - y = 45 ---(1)
and
2y - x = 21
-x + 2y = 21 ---(2)
Multiplying (1) by 2 and (2) by 1
4x - 2y = 90 ---(3)
-x + 2y = 21 ---(4)
Adding (3) and (4), we get
3x = 111
x = 111/ 3 = 37
Putting x = 37 in (1), we get
2 × 37 - y = 45
74 - y = 45
y = 29
Hence, the greater and the smaller numbers are 37 and 29.

Question 8:
Let the larger number be x and smaller be y respectively.
We know,
Dividend = Divisor × Quotient + Remainder
3x = y × 4 + 8
3x - 4y = 8 ---(1)
And
5y = x × 3 + 5
-3x + 5y = 5 ---(2)
Adding (1) and (2), we get
y = 13
putting y = 13 in (1)

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

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

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

Hence, the larger and smaller numbers are 20 and 13 respectively.

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

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