Hw
09/11/2021

Exercise-11(A)

1. Find the average of

f. $2\frac{3}{5}, 3\frac{3}{10}, 3\frac{1}{2}, \frac{2}{5}, \frac{9}{10}, 1\frac{1}{2}$

$= \frac{13}{5} + \frac{33}{10} + \frac{7}{2} + \frac{2}{5} + \frac{9}{10} + \frac{3}{2}$

$= \frac{26 + 33 + 35 + 4 + 9 + 15}{10} = \frac{122}{10}$

L.C.M of 5, 10, 2, 5, 10, 2 = 10

Number of quantities given = 6

Average $= \frac{122}{10} \div 6 = \frac{\cancel{122}^{61}}{10} \times \frac{1}{\cancel{6}_{3}} = \frac{61}{3} = 20\frac{1}{3}$

g. $\frac{7}{12}, 2\frac{5}{6}, 5\frac{3}{4}, \frac{1}{2}, \frac{5}{12}, \frac{1}{6}$

$= \frac{7}{12} + \frac{17}{6} + \frac{23}{4} + \frac{1}{2} + \frac{5}{12} + \frac{1}{6}$

$= \frac{7 + 34 + 69 + 6 + 5 + 2}{12} = \frac{123}{12}$

L.C.M of 12, 6, 4, 2, 12, 6 = 12

Number of quantities given = 6

Average $= \frac{123}{12} \div 6 = \frac{\cancel{123}^{41}}{12} \times \frac{1}{\cancel{6}_{2}} = \frac{41}{24} = 1\frac{17}{24}$

h. $\frac{1}{4}, \frac{3}{4}, \frac{1}{2}, \frac{1}{6}, \frac{3}{8}$

$= \frac{12 + 36 + 24 + 8 + 18}{48} = \frac{98}{48}$ L.C.M. of 4, 4, 2, 6, 8 =

Number of quantities given = 5

Average $= \frac{98}{48} \div 6 = \frac{\cancel{98}^{\cancel{46}_{23}}}{\cancel{48}_{\cancel{24}_{12}}} \times \frac{1}{6}$

$= \frac{23}{12} \times \frac{1}{6} = \frac{23}{72}$

3. Find the average of all even numbers between 7 and 23.

Solution:

All the even numbers between 7 and 23 = 8, 10, 12, 14, 16, 18, 20, 22

Average = $\frac{\text{Sum of all quantities}}{\text{Number of quantities}}$

$= \frac{8 + 10 + 12 + 14 + 16 + 18 + 20 + 22}{8}$

$= \frac{120}{8} = \frac{\cancel{+}\cancel{120}^{15}}{\cancel{8}_{1}} = 15$

4. Find the average of all odd numbers beteween 10 and 30

Solution:

All odd numbers beteween 10 and 30 = 11, 13, 17, 19, 23

$$\text{Average} = \frac{\text{Sum of all quantities}}{\text{Number of quantities}}$$

$$= \frac{11 + 13 + 17 + 19 + 23}{5}$$

$$= \frac{83}{5} = 16\frac{3}{5}$$