

Hw

Exercise 11-A

1. Find the average of
a) 50, 41, 47, 48, 40, 44

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

$$= \frac{50 + 41 + 47 + 48 + 40 + 44}{6}$$

$$= \frac{270}{6} = 45$$

- b) 10, 20, 30, 40, 50, 60, 70, 80, 90, 100

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

$$\frac{10 + 20 + 30 + 40 + 50 + 60 + 70 + 80 + 90 + 100}{10}$$

$$= \frac{550}{10} = 55$$

c) 35, 42, 31, 53, 16, 34, 27

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

$$= \frac{35 + 42 + 31 + 53 + 16 + 34 + 27}{7}$$

$$= \frac{238}{7} = 34$$

d) 24, 21, 26, 25, 18, 20, 27, 23

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

$$= \frac{24 + 21 + 26 + 25 + 18 + 20 + 27 + 23}{8}$$

9.11.21

Hw

$$= \frac{184}{8} = 23$$

e) $\frac{3}{8}, 1\frac{1}{4}, 2\frac{5}{6}, 4\frac{1}{2}, 6\frac{4}{3}$

$$\frac{3}{8} + \frac{5}{4} + \frac{17}{6} + \frac{9}{2} + \frac{22}{3} \quad \text{LCM} = 24$$

$$\frac{3 \times 3}{8 \times 3} + \frac{5 \times 6}{4 \times 6} + \frac{17 \times 4}{6 \times 4} + \frac{9 \times 12}{2 \times 12} + \frac{22 \times 8}{3 \times 8}$$

Lcm = 24

$$= \frac{9 + 30 + 68 + 108 + 176}{24}$$

Ans $\frac{391}{24}$

The no. of quantities given = 5

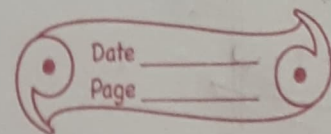
2	8, 4, 6, 2, 3
2	4, 2, 3, 1, 3
2	2, 1, 3, 1, 3
3	1, 1, 3, 1, 3
	1, 1, 1, 1, 1

$$2 \times 2 \times 2 \times 3 = 24$$

$$\text{Average} = \frac{391}{24} \div 5 = \frac{391}{24} \times \frac{1}{5}$$

$$= \frac{391}{120} = 3\frac{31}{120}$$

9.11.21



2. The rainfall in Jamshedpur for 6 consecutive years was 28.5 cm, 30.25 cm, 32.4 cm, 31.6 cm & 30.25 cm. Find the average rainfall of Jamshedpur

Ans Solution

The rainfall for 1st year = 28.5 cm

The rainfall for 2nd year = 30.25 cm

The rainfall for 3rd year = 32.4 cm

The rainfall for 4th year = 31.6 cm

The rainfall for 5th year = 24 cm

The rainfall for 6th year = 30.25 cm

$$\text{Average} = \frac{\text{sum of quantities}}{\text{Number of quantities}}$$

$$= \frac{28.5 + 30.25 + 32.4 + 31.6 + 24 + 30.25}{6}$$

$$177 \div 6 = \frac{177}{6} = 29.5 \text{ cm}$$

9.11.21

Hw

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

Solution

$$\frac{13}{5}, \frac{33}{10}, \frac{7}{2}, \frac{2}{5}, \frac{9}{10}, \frac{11}{10}$$

$$\frac{13 \times 2}{5 \times 2} + \frac{33 \times 1}{10 \times 1} + \frac{7 \times 5}{2 \times 5} +$$

5	5, 10, 25, 10, 10
2	1, 2, 2, 2, 2
	1, 1, 1, 1, 1

$$\frac{2 \times 2}{5 \times 2} + \frac{9 \times 1}{10 \times 1} + \frac{11 \times 1}{10 \times 1}$$

$$5 \times 2 = 10$$

$$\frac{26}{10} + \frac{33}{10} + \frac{35}{10} + \frac{4}{10} + \frac{9}{10} + \frac{11}{10} = \frac{118}{10}$$

$$\text{Average} = \frac{118}{10} \div 6 =$$

$$\frac{118}{10} \times \frac{1}{6} = \frac{118}{60} = 1\frac{58}{60}$$

9.11.21

Hw

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

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

$\frac{7 \times 1}{12 \times 1} + \frac{17 \times 2}{6 \times 2} + \frac{23 \times 3}{4 \times 3} + \frac{1 \times 6}{2 \times 6}$

$\frac{5 \times 1}{12 \times 1} + \frac{1 \times 2}{6 \times 2}$

2	12, 6, 4, 2, 12, 6
2	6, 3, 2, 6, 6, 3
3	3, 3, 1, 1, 3, 3
3	1, 1, 1, 1, 1, 1

$2 \times 2 \times 3 = 12$

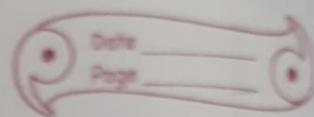
$\frac{7 + 34 + 69 + 6 + 5 + 2}{12} = \frac{123}{12}$

Average = $\frac{123}{12} \div 6$

$\frac{123}{12} \times \frac{1}{6} = \frac{123}{72} = 1\frac{51}{12}$

9.11.21

Hw



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

$$\frac{1 \times 6}{4 \times 6} + \frac{3 \times 6}{4 \times 6} + \frac{1 \times 12}{2 \times 12} + \frac{1 \times 4}{6 \times 4}$$

$$+ \frac{3 \times 3}{8 \times 3}$$

$$\frac{6 + 18 + 12 + 4 + 9}{24} = \frac{49}{24}$$

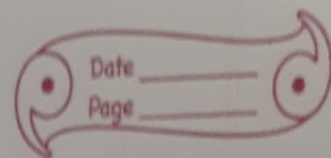
$$2 \times 2 \times 2 \times 3 = 24$$

$$\text{Average} = \frac{49}{24} \div \frac{1}{5}$$

$$\frac{49}{24} \times \frac{1}{5} = \frac{49}{120}$$

9.11.21

Hw



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

8, 10, 12, 14, 16, 18, 20, 22

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

$$= \frac{8 + 10 + 12 + 14 + 16 + 18 + 20 + 22}{8} = 120$$

$$\frac{120}{8} = 15$$

4) Find the average of all odd numbers between 10 & 30.

11, 13, 15, 17, 19, 21, 23, 25, 27, 29

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

$$= \frac{11 + 13 + 15 + 17 + 19 + 21 + 23 + 25 + 27 + 29}{10}$$

$$= \frac{200}{10} = 20$$