

Average

Ex-11(A)

Rule:

$$\text{Average} = \frac{\text{Sum of observations}}{\text{No. of observations}}$$

1. Find the average of

a) 50, 41, 47, 48, 40, 44

$$\therefore \text{Average} = \frac{\text{Sum of observations}}{\text{No. of observations}}$$

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

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

$$= 45$$

Ans. 45

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

$$\text{Average} = \frac{\text{Sum of observations}}{\text{No. of observations}}$$

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

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

$$= 23$$

Ans. 23

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

$$= \frac{3}{8}, \frac{5}{4}, \frac{17}{6}, \frac{9}{2}, \frac{22}{3}$$

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

$$= \frac{(3 \times 3) + (5 \times 6) + (17 \times 4) + (9 \times 12) + (22 \times 8)}{24}$$

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

$$= \frac{391}{24}$$

The L.C.M of

$$2 \begin{array}{l} 8, 4, 6, 2, 3 \\ 4, 2, 3, 1, 3 \end{array}$$

$$2 \begin{array}{l} 2, 1, 3, 1, 3 \\ 2, 1, 1, 1, 1 \end{array}$$

$$3 \begin{array}{l} 2, 1, 1, 1, 1 \\ 2, 1, 1, 1, 1 \end{array}$$

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

$$= 24$$

$$\therefore \text{Average} = \frac{\text{Sum of observations}}{\text{No. of observations}}$$

$$= \frac{391}{24}$$

$$= \frac{391}{5}$$

$$= \frac{391}{24} \times \frac{1}{5}$$

$$\frac{391}{120} = \frac{391}{120} \quad \begin{array}{r} 3 \\ 120 \overline{) 391} \\ \underline{360} \\ 31 \end{array}$$

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

2. The rainfall in Jamshedpur for 6 consecutive years was 28.5 cm, 30.25 cm, 32.4 cm, 31.6 cm, 24 cm and 30.25 cm. Find the average rainfall of Jamshedpur.

→

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

$$= \frac{177.00}{6} = 29.5$$

= 29.5 cm.

Ans. Average rainfall is 29.5 cm.

3. Find the average of all even numbers between 7 and 22

→ even numbers = 8, 10, 12, 14, 16, 18, 20, 22

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

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

= 15      An 15.

9 . The average mark in 6 subject is = 65

Total mark in 6 subject =  $65 \times 6 = 390$

Total marks in different subjects =  $( 64 + 68 + 58 + 55 + 70 ) = 315$

Mark in Geography =  $390 - 315 = 75$  marks ( Ans ).

11.) The average age of 10 children = 9 years 9 months (  $9 \times 12 + 9 = 117$  months )

Total age of 10 children =  $117 \times 10 = 1170$  months

The average age of 9 children = 8 years 11 months (  $8 \times 12 + 11 = 107$  months )

Total age of 9 children =  $107 \times 9 = 963$  months

Age of the tenth child =  $1170 - 963 = 207$  months

=  $207 / 12$

= 17 years 3 months (ans ).