HW 27/12/2021

EX 11: A

1. Find the average:

(i) $2\frac{3}{5}, 3\frac{3}{10}, 3\frac{1}{2}, \frac{2}{5}, \frac{9}{10}, 1\frac{1}{2}$

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

$= \frac{13\times2 + 33\times1 + 7\times5 + 2\times2 + 9\times1 + 3\times5}{10}$

$= \frac{122}{5} = \frac{61}{5}$

No. of quantities = 6

Average $= \frac{61}{5} \div 6 = \frac{61}{5} \times \frac{1}{6}$

$= \frac{61}{30} = 2\frac{1}{30}$

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

Average $= \frac{7}{12} + \frac{17}{6} + \frac{23}{4} + \frac{1}{2} + \frac{5}{12} + \frac{1}{6}$ LCM = 24

$= \frac{7\times2 + 17\times4 + 23\times6 + 1\times12 + 5\times2 + 1\times4}{24}$

$= \frac{14 + 68 + 138 + 12 + 10 + 4}{24}$

$= \frac{246}{24} = \frac{41}{4}$

No. of quatities = 6

Average $= \frac{41}{4} \div 6 = \frac{41}{4} \times \frac{1}{6}$

$= \frac{41}{24} = 1\frac{17}{24}$

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

LCM = 24

Average $= \frac{1}{4} + \frac{3}{4} + \frac{1}{2} + \frac{1}{6} + \frac{3}{8}$

$= \frac{1\times6 + 3\times6 + 1\times12 + 1\times4 + 3\times3}{24}$

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

No. of quantities = 5

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

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

(3) Solution -

• Even numbers between 7 and 23

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

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

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

(9) Solution -

Odd no. between 10 and 30 = $\frac{11+13+15+17+19+21+23+25+27+29}{10}$

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

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7. b) Solution -

Average attendance

Monday = $\frac{48+49+50}{3} = \frac{147}{3}$

$= 49$

Tuesday = $\frac{50+48+45}{3} = \frac{148}{3}$

$= 49.33$

Wednesday = $\frac{52+48+45}{3} = \frac{145}{3}$

$= 48.33$

Thursday = $\frac{46+45+48}{3} = \frac{141}{3} = 47$

Friday = $\frac{44+47+50}{3} = \frac{141}{3} = 47$

(b) i) on tuesday the average attendance of three classes was the best.

ii) Worst → on Thursday

(8) Solution.

(a) English = $\frac{63+50+82+60+48+75}{6} = \frac{378}{6} =$

(b) Hindi = $\frac{58+37+48+58+51+48}{6} = \frac{300}{6}$

Maths = $\frac{85+41+91+62+47+70}{6} = \frac{396}{6} =$

EVS = $\frac{68+40+88+60+50+66}{6} = \frac{372}{6} =$

History = $\frac{70+50+74+65+51+80}{6}$

$= \frac{390}{6} = 65$

Geog = $\frac{64+48+73+67+47+75}{6}$

$= \frac{372}{6} = 62$

(b) Amar = $\frac{63+58+85+68+70+64}{6}$

$= \frac{269}{6} = 44$

Babir = $\frac{50+37+41+40+46}{6}$

$= \frac{264}{6} = 44$

Chander $= \frac{82+48+91+88+74+73}{6}$

$= \frac{456}{6} = 76$

Dilraj $= \frac{60+58+62+60+65+67}{6}$

$= \frac{372}{6} = 62$

Ela $= \frac{48+51+47+50+51+47}{6}$

$= \frac{294}{6} = 49$

Fatima $= \frac{75+78+70+66+80+75}{6}$

$= \frac{414}{6} = 69$

(c) Subject has highest average marks = Maths

(d) Subject has lowest average marks = Hindi