GOUR INSTITUTE

PSC , Bank(Clerk/PO), SSC, Railways, S.I. , Classes
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F – 12, City Bazar,Thatipur, Gwalior (M.P.)www.gourinstitute.in

AVERAGE

INTRODUCTION

1. **Average:**

   Average = $\left(\dfrac{\text{Sum of observations}}{\text{Number of observations}}\right)$

2. **Average Speed:**

   Suppose a man covers a certain distance at *x* kmph and an equal distance at *y*kmph.

   Then, the average speed druing the whole journey is $\left(\dfrac{2xy}{x + y}\right)$ kmph.

1. Find the average of all prime numbers between 30 and 50.

Sol. There are five prime numbers between 30 and 50.
They are 31, 37, 41, 43 and 47.
∴ Required average = [(31 + 37 + 41 + 43 + 47) / 5] = 199/5
= 39.8.

2. Find the average of first 40 natural numbers.

Sol. Sum of first n natural numbers = 40 * 41 / 2 = 820.
∴ Required average = 820 / 40 = 20.5.

3. Find the average of first 20 multiples of 7.

Sol. Required average = 7(1+2+3 ... + 20) / 20 = [7 * 20 * 21 / 20 * 2] = [147 / 2] = 73.5.

4. The average weight of 10 oarsmen in a boat is increased by 1.8 kg when one of the crew, who weighs 53kg is replaced by a new man. find the weight of the new man.

Sol. Total weight increased = (1.8 * 10)kg = 18kg.
∴ Weight of the new man = (53 + 18)kg = 71kg.

5. A batsman makes a score of 87 runs in the 17th inning and thus increases his average by 3. find his average after 17th inning.

Sol. Let the average after 17th inning = x.
Then, average after 16th inning = $(x - 3)$
∴ 16$(x - 3)$ + 87 = 17x or x = (87 - 48) = 39.

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EXERCISE

01. Average expanses of a family of first three months is Rs 4200 next 4 months is 5040 and last 5 months is Rs 5304. If the saving at the last of the year Rs 4320, then find out the average income -
(a) 5300 Rupees (b) 3400 Rupees (c) 2400 Rupees (d) 4700 Rupees (e) None of these

02. The average age of 8 members committee is increased by 2 years when two men (35 years and 45 years) replaced by two women. Find out the average age of two women -
(a) 48 Years (b) 45 Years (c) 60 Years (d) 28 Years (e) None of these

03. The average age of 6 members family is 27, If the age of youngest member be 7 years, then average age of family at the birth of youngest member is -
(a) 40 Years (b) 24 Years (c) 26 Years (d) 38 Years (e) None of these

04. Total price of 13 chairs and 5 tables is 8280. If the average price of a table is 1227, then find out average of a chair price is -
(a) 220 Rupees (b) 425 Rupees (c) 165 Rupees (d) 210 Rupees (e) None of these

05. Average monthly income of a family of four earning members was Rs 4410, one of the earning member died therefore the average income down to Rs3900. The income of deceased was -
(a) 5940 Rupees (b) 4202 Rupees (c) 6204 Rupees- (d) 2120 Rupees (e) None of these

06. The average weight of 19 students was 25 kg. by the admission of a new student the average weight reduced to 24.8 kg. The weight of new student is.
(a) 21 Kg (b) 16 Kg (c) 22 Kg (d) 27 Kg (e) None of these

07. The average weight of 25 students is 18.8 kg. By the admission of a new student the average weight increased by 200 gm. The weight of new student is -
(a) 21 Kg (b) 26 Kg (c) 24 Kg (d) 27 Kg (e) None of these

08. Out of the three given numbers, the first one is twice with the second and three times with the third. If the average of these numbers is 88. then the numbers will be -
(a) 104, 58, 79 (b) 144, 72, 48 (c) 214, 56, 35 (d) 152, 85, 79 (e) None of these

09. A 18 years old student leave the class of 20 students. By the admission of new student the average age reduced by 2 months . The age of new student is -
(a) 18 Year 2 Month (b) 14 Year8 Month (c) 15 Year8 Month
(d) 28 Year 4 Month (e) None of these

10. A member of five members committee is replaced by new one and average age is as same as it was 3 years ago. What is the age difference between new and old member –
(a) 20 Years (b) 15 Years (c) 16 Years (d) 18 Years (e) None of these

11. Addition of five numbers is 240, average of first of two numbers is 56.5 and last two is 39.5. Find the third number -
(a) 46 (b) 48 (c) 44 (d) 24 (e) None of these

12. Average of 13 results is 88. If the average of first seven results is 63, and that of last seven is 70. Find the seventh result -
(a) 47 (b) 48 (c) 46 (d) 45 (e) None of these

ANSWER SHEET

AVEARGE EXERCISE

1	2	3	4	5	6	7	8	9	10	11	12
A	A	B	C	A	A	C	B	B	B	B	A