Average Questions for Bank Exams.

Average Quiz 3

Directions: Kindly study the following Questions carefully and choose the right answer:

1. The average annual income (in Rs.) of certain agricultural workers is P and that of other workers is Q . The number of agricultural workers is 9 times that of other workers. Then the average monthly income (in Rs.) of all the workers is :

A. $\frac{P+Q}{10}$ B. $\frac{P+9Q}{10}$ C. $\frac{1}{P+Q}$ D. $\frac{9P+Q}{10}$ E. None of these

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2. A family consist of grandparents, parents and two grandchildren. The average age of the grandparents is 56 years, that of the parents is 27 years and that of the grandchildren is 7 years. What is the average of the family?

A. $\frac{200}{3}$ years B. $\frac{233}{6}$ years C. 30 years D. 40 years E. None of these

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3. A library has an average of 430 visitors on Sundays and 270 on other days. The around average of the number of visitors per day in a month of 31 days beginning with a Saturday is:

A. 260 B. 275 C. 285 D. 296 E. None of these

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4. If the average marks of three batches of 40, 50 and 60 students respectively is 30, 50 and 70, then the average marks of all the students is:

A. 63.33 B. 52.66 C. 60 D. 65 E. None of these

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5. The average weight of 18 boys in a class is 45.55 kgs and that of the remaining 4 boys is 35.25 kgs. Find the average weight of all the boys in the class.

A. 44.33 kgs B. 42 kgs C. 43.67 kgs D. 49.23 kgs E. None of these

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6. The average height of 27 persons was recorded as 162 cm. If the height of Shreyas was deleted from the observation, the height reduced by 1 cm. What was Shreyas's height?

A. 184 cm B. 226 cm C. 179 cm D. 186 cm E. None of these

7. The average of five numbers is 57.8. The average of the first and the second number is 77.5 and the average of the fourth and the fifth number is 46. What is the third number?

A. 45 B. 43 C. 42
D. Can't be determined E. None of these

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8. The average age of 14 girls and their teacher's age is 15 years. If the teacher's age is excluded, the average reduces by 1. What is the teacher's age?

A. 32 years B. 30 years C. 29 years D. 35 years E. None of these

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9. If the average of A and B is 30, the average of C and D is 20, then which of the following is/are correct?

I. The average of B and C must be greater than 25.
II. The average of A and D must be less than 25.
Select the correct answer using the codes given below.

A. Only I B. Only II C. Either I or II D. Neither I nor II

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10. If average weight of a family is 'y' kg. If a guest weighing 30 kg arrives then the average weight is increases by 1 kg. If the weight of this guest had been 18 kg then the average weight of the family would have decreased by 1 kg. Find 'y'.

A. 28 B. 24 C. 30 D. 22 E. None of these

Correct Answers:

1	2	3	4	5	6	7	8	9	10
D	C	D	B	C	E	C	C	D	B

Explanations:

1. Let the number of other workers be x.

Then, number of agricultural workers = $9x$.

Total number of workers = $9x + x = 10x$.

So, Average monthly income

$$= \frac{P \times (9x) + Q \times (x)}{10x} = \frac{x[9P + Q]}{10x}$$

$$= \frac{(9P + Q)}{10}$$

Hence, option D is correct.

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2. First, we find out the normal ages of candidates:

Grandparents (2 candidates) = 56×2

Parents (2 candidates) = 27×2

Two grandchildren = 7×2.

The total candidates are 6. then,

$$\text{Average} = \frac{56 \times 2 + 27 \times 2 + 7 \times 2}{2 + 2 + 2} \Rightarrow \frac{112 + 54 + 14}{6}$$

$$= \frac{180}{6} = 30 \text{ years}$$

Hence, option C is correct.

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3. Since the month begins with a Saturday , So there will be five Sundays in the month,

$$\text{Req. Avg.} = \frac{430 \times 5 + 270 \times 26}{31} \Rightarrow \frac{2150 + 7020}{31}$$

$$\Rightarrow \frac{9170}{6} = 295.80 \approx 296.$$

So, the around value of visitors per day is 296.

Hence, option D is correct.

4.

Req Avg = $\frac{40 \times 30 + 50 \times 50 + 60 \times 70}{30 + 50 + 70}$

$\Rightarrow \frac{1200 + 2500 + 4200}{150}$

$\Rightarrow \frac{7900}{150} = 52.66$

Hence, option (B) is correct.

5.

Reqd. Avg = $\frac{18 \times 45.55 + 4 \times 35.25}{18 + 4} \Rightarrow \frac{819.9 + 141}{22}$

$\Rightarrow \frac{960.9}{22} = 43.67$ kgs

Hence, option C is correct.

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6. To solve this question, we can apply a short trick approach;

If the average of 'n' quantities is equal to 'x' when a quantity is removed the average becomes 'y'. Then the value of the removed quantity is [n (x – y) + y].

Given:

Number of persons = n = 27, Difference in average = (x – y) = 1 cm

Old average = x = 162, New average = y = 162 – 1 = 161 cm

By the short trick approach, we get

[n (x – y) + y]

⇒ [27 (1) + 161] = [27 + 161] = 188 cm.

Hence, option (E) is correct.

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7. Third number = Total of five number – (Total of first two numbers + Total of last two numbers)

= 5 × 57.8 – (2 × 77.5 + 2 × 46)

= 289 – (155 + 92)

= 289 – (247) = 42.

Hence, option C is correct.

8. To solve this question, we can apply a short trick approach;
If the average of 'n' quantities is equal to 'x' when a quantity is removed the average becomes 'y'. Then the value of the removed quantity is [n (x – y) + y].
Given:
Number of persons = n = 15
Old average = x = 15
New average = y = 14
Difference in average = (x – y) = 1
By the short trick approach, we get
[n (x – y) + y]
⇒ [15 × (1) + 14] years = 29 years.
Hence, option (C) is correct.

9. Average of A and B = 30
Total value of A and B = 30 × 2 = 60
And average of C and D = 20
Total value of C and D = 20 × 2 = 40
Since, the individual values of A, B, C and D are not specified.
Hence, average of B and C can be greater or less than 25 and average of A and D can be greater or less than 25.
Hence, option (D) is correct.

10. Let the number of family members be x.
Therefore, the total weight = xy
Equation in the 1st scenario:
(x + 1) (y + 1) = xy + 30
xy + x + y + 1 = xy + 30
x + y = 29 **.....(i)**
Equation in the 2nd scenario:
(x + 1) (y – 1) = xy + 18
xy + y – x – 1 = xy + 18
y – x = 19 **....(ii)**
Solving equations (i) and (ii), we get
2y = 48, Therefore, y = 24.
Hence, option (B) is correct.