

AVERAGES

DRILL – 1 – ADDITION / REMOVAL OF ITEMS

Average of new items added

$$A \pm (1 + N/n) \times$$

Average of items removed

$$A \pm (1 - N/n) \times$$

- The average age of 40 students in a class is 15 years. When 10 new students are admitted, the average is increased by 0.2 year. Find the average age of the new students.

a. 15.5
b. 16
c. 16.5
d. NOTA

- The average salary of 15 teachers is Rs. 4500 per month. Three teachers left the school and the average salary of the remaining teachers dropped by Rs. 175. Find the total salary of the teachers who left the school.

a. 5200
b. 7400
c. 11600
d. 15600
- The average weight of 29 students in a class is 48 kg. If the weight of the teacher is included, the average weight rises by 500 g. Find the weight of the teacher.

a. 62 kg
b. 63 kg
c. 64 kg
d. 65 kg
- There are 50 boys in a class. Their average weight is 45 kg. When one boy leaves the class, the average reduces by 100 grams. Find the weight of the boy who left the class.

a. 45.8 kg
b. 46.8 kg
c. 48.9 kg
d. NOTA
- The average age of 25 students of a class is 10 years. When a new student is admitted, the average age becomes 10.1 years. What is the age of the new student?

a. 12.6
b. 13.5
c. 14.2
d. NOTA

DRILL – 2 – REPLACEMENT OF ITEMS

For N items in a group,

$$\text{Sum of new items added} - \text{Sum of new items removed} = \pm N \times$$

- When a man weighing 80 kg is replaced by another man in a group of five persons, the average weight decreases by 3 kg. What is the weight of new man?

a. 62 kg
b. 63 kg
c. 64 kg
d. 65 kg

- The average weight of 15 students in a class is increased by 1.5 kg when one of the students weighing 40 kg is replaced by a new student. Find the weight of the new student.
- a. 62.5 kg b. 63.5 kg c. 64.5 kg d. 65.5 kg
- The average temperature on Tuesday, Wednesday and Thursday was 37°C . The average temperature on Wednesday, Thursday and Friday was 38°C . If the temperature on Friday was 39°C , find the temperature on Tuesday.
- a. 35.8 b. 36 c. 36.2 d. NOTA
- The average weight of 8 person's increases by 2.5 kg when a new person comes in place of one of them weighing 65 kg. What might be the weight of the new person?
- a. 80 b. 83 c. 85 d. 87
- When a person weighing 68 Kg is replaced by a new person, the average weight of 10 persons increases by $1\frac{1}{2}$ kg. What will be the weight of the new person?
- a. 80 b. 83 c. 85 d. 87

DRILL – 3 – AGES AND AVERAGE

- A family consists of two grandparents, two parents and three grandchildren. The average age of the grandparents is 67 years, that of the parents is 35 years and that of the grandchildren is 6 years. What is the average age of the family?
- a. $30\frac{5}{6}$ b. $31\frac{2}{7}$ c. $31\frac{5}{7}$ d. NOTA
- The average age of husband, wife and their child 3 years ago was 27 years and that of wife and the child 5 years ago was 20 years. The present age of the husband is:
- a. 35 years b. 38 years c. 39 years d. 40 years
- Five years ago, the average age of P and Q was 15 years. Average age of P, Q and R today is 20 years. How old will R be after 10 years?
- a. 30 years b. 23 years c. 30 years d. 27 years
- The average age of a family of five persons is 20 years. If the youngest member is 8 years old, what was the average age of the family at the birth time of the youngest member?
- a. 30 years b. 23 years c. 30 years d. 27 years
- The average age of 30 boys in a class is 15 years. One boy, aged 20 years, left the class, but two new boys came in his place whose ages differ by 5 years. If the average age of all the boys now in the class remains 15 years, the age of the younger newcomer is
- a. 12 b. 13 c. 14 d. 15