AVERAGE

BASICS OF AVERAGES

Average This is the arithmetic mean, and is calculated by adding a group of numbers and then dividing by the count of those numbers. For example, the average of 2. 3. 3. 5. 7. and 10 is 30 divided by 6, which is 5. Median The middle number of a group of numbers.

Average = Sum of Values/Number of Values

Shortcut:

Average of first ‘n’ natural numbers =(n+1)/2

Average of first ‘n’ even numbers = (n + 1)

Average of first ‘n’ odd numbers = n

AVERAGES

Q 1. If a, b, c, d & e are five consecutive odd integers, what is their average?

(1) a + 4

(2) (abcde)/5

(3) 5 (a + b + c + d + e)

(4) a + 8

(5) None of these

AVERAGES

Q 1. If a, b, c, d & e are five consecutive odd integers, what is their average?

(1) a + 4

(2) (abcde)/5

(3) 5 (a + b + c + d + e)

(4) a + 8

(5) None of these

AVERAGES

Q 2. The average salary of 20 workers in an office is Rs1900 per month. If the manager's salary is added, the average becomes Rs2000 per month. The manager's annual salary (in Rs) is :

(1) Rs4000

(2) Rs25200

(3) Rs48000

(4) Rs84000

(5) None of these

AVERAGES

Q 2. The average salary of 20 workers in an office is Rs1900 per month. If the manager's salary is added, the average becomes Rs2000 per month. The manager's annual salary (in Rs) is :

(1) Rs4000

(2) Rs25200

(3) Rs48000

(4) Rs84000

(5) None of these

AVERAGES

Q 3. In a coconut grove, (x + 2) trees yield 60 nuts per year per tree, x trees yield 120 nuts per year per tree, and (x – 2) trees yield 180 nuts per year per tree. If the average yield per year per tree is 100, find x :

(1) 4

(2) 2

(3) 8

(4) 6

(5) None of these

AVERAGES

Q 3. In a coconut grove, (x + 2) trees yield 60 nuts per year per tree, x trees yield 120 nuts per year per tree, and (x – 2) trees yield 180 nuts per year per tree. If the average yield per year per tree is 100, find x :

(1) 4

(2) 2

(3) 8

(4) 6

(5) None of these

AVERAGES

Q 4. In a certain primary school, there are 60 boys of 12 years of age each, 40 boys of 13 years of age each, 50 boys of age 14 each, and 50 boys of age 15 each. The average age (in years) of the total boys in the school is :

(1) 13.50

(2) 13

(3) 13.45

(4) 14

(5) None of these

AVERAGES

Q 4. In a certain primary school, there are 60 boys of 12 years of age each, 40 boys of 13 years of age each, 50 boys of age 14 each, and 50 boys of age 15 each. The average age (in years) of the total boys in the school is :

(1) 13.50

(2) 13

(3) 13.45

(4) 14

(5) None of these

AVERAGES

Q 5. The average age of 24 students and the class teacher is 16 years. If the class teacher's age is excluded, the average reduces by 1 year. What is the age of the class teacher?

(1) 50 years

(2) 45 years

(3) 40 years

(4) Data inadequate

(5) None of these

AVERAGES

Q 5. The average age of 24 students and the class teacher is 16 years. If the class teacher's age is excluded, the average reduces by 1 year. What is the age of the class teacher?

(1) 50 years

(2) 45 years

(3) 40 years

(4) Data inadequate

(5) None of these

AVERAGES

Q 6. The average of 8 numbers is 14. If 2 is subtracted from each given number, what will be the new average?

(1) 12

(2) 10

(3) 16

(4) 18

(5) None of these

AVERAGES

Q 6. The average of 8 numbers is 14. If 2 is subtracted from each given number, what will be the new average?

(1) 12

(2) 10

(3) 16

(4) 18

(5) None of these

AVERAGES

Q 7. The average of x numbers is 3x. If (x–1) is subtracted from each given number, what will be the new average?

(1) 2x + 1

(2) (x – 1)3

(3) 2x – 1

(4) Data inadequate

(5) None of these

AVERAGES

Q 7. The average of x numbers is 3x. If (x–1) is subtracted from each given number, what will be the new average?

(1) 2x + 1

(2) (x – 1)3

(3) 2x – 1

(4) Data inadequate

(5) None of these

AVERAGES

Q 8. The average age of 34 boys in a class is 14 years. If the teacher's age is included the average age of the boys and the teacher becomes 15 years. What is the teacher's age?

(1) 48 years

(2) 46 years

(3) 49 years

(4) 45 years

(5) None of these

AVERAGES

Q 8. The average age of 34 boys in a class is 14 years. If the teacher's age is included the average age of the boys and the teacher becomes 15 years. What is the teacher's age?

(1) 48 years

(2) 46 years

(3) 49 years

(4) 45 years

(5) None of these

AVERAGES

Q 9. The average of 40 numbers is 405. If each of the numbers is divided by 15, find the average of the new set of numbers :

(1) 27

(2) 28

(3) 21

(4) 26

(5) None of these

AVERAGES

Q 9. The average of 40 numbers is 405. If each of the numbers is divided by 15, find the average of the new set of numbers :

(1) 27

(2) 28

(3) 21

(4) 26

(5) None of these

AVERAGES

Q 10. The average of 8 numbers is 21. If each of the numbers is multiplied by 8, find the average of the new set of numbers :

(1) 168

(2) 167

(3) 158

(4) 161

(5) None of these

AVERAGES

Q 10. The average of 8 numbers is 21. If each of the numbers is multiplied by 8, find the average of the new set of numbers :

(1) 168

(2) 167

(3) 158

(4) 161

(5) None of these

AVERAGES

Q 11. The average weight of 8 persons increases by 1.5kg, If a person whose weight is 65kg is replaced by a new person, what could be the weight of the new person?

(1) 76kg

(2) 77kg

(3) 76.5kg

(4) Data inadequate

(5) None of these

AVERAGES

Q 11. The average weight of 8 persons increases by 1.5kg, If a person whose weight is 65kg is replaced by a new person, what could be the weight of the new person?

(1) 76kg

(2) 77kg

(3) 76.5kg

(4) Data inadequate

(5) None of these

AVERAGES

Q 12. The average age of the class consisting of 24 students is decreased by 3 months when 1 boy aged 20 years is replaced by a new boy. Find the age of the new boy :

(1) 14 years

(2) 16 years

(3) 17 years

(4) 18 years

(5) None of these

AVERAGES

Q 12. The average age of the class consisting of 24 students is decreased by 3 months when 1 boy aged 20 years is replaced by a new boy. Find the age of the new boy :

(1) 14 years

(2) 16 years

(3) 17 years

(4) 18 years

(5) None of these

AVERAGES

Q 13. The average marks obtained by 77 candidates in a certain examination is 17. If the average marks of passed candidates is 19 and that of the failed candidates is 8, what is the number of candidates who passed the examination?

(1) 36

(2) 63

(3) 40

(4) 70

(5) None of these

AVERAGES

Q 13. The average marks obtained by 77 candidates in a certain examination is 17. If the average marks of passed candidates is 19 and that of the failed candidates is 8, what is the number of candidates who passed the examination?

(1) 36

(2) 63

(3) 40

(4) 70

(5) None of these

AVERAGES

Q 14. The average of 13 results is 39. The average of the first five is 38 and the average of the last seven is 36. Find the value of the 6th number :

(1) 64

(2) 46

(3) 65

(4) 56

(5) None of these

AVERAGES

Q 14. The average of 13 results is 39. The average of the first five is 38 and the average of the last seven is 36. Find the value of the 6th number :

(1) 64

(2) 46

(3) 65

(4) 56

(5) None of these

AVERAGES

Q 15. A batsman in his 16th innings scores 92 runs and thereby increases his average by 4. What is his average after 16 innings?

(1) 32

(2) 30

(3) 34

(4) 23

(5) None of these

AVERAGES

Q 15. A batsman in his 16th innings scores 92 runs and thereby increases his average by 4. What is his average after 16 innings?

(1) 32

(2) 30

(3) 34

(4) 23

(5) None of these

AVERAGES

Q 16. A batsman, in his 19th innings, missed a century by 2 runs and thereby increases his average by 3. What is his average after 19 innings?

(1) 54

(2) 44

(3) 45

(4) 43

(5) None of these

AVERAGES

Q 16. A batsman, in his 19th innings, missed a century by 2 runs and thereby increases his average by 3. What is his average after 19 innings?

(1) 54

(2) 44

(3) 45

(4) 43

(5) None of these

AVERAGES

Q 17. A constant distance from A to B is covered by a man at 40km/h. The person rides back the same distance at 30km/h. Find his approximate average speed during the whole journey.

(1) 34km/h

(2) 35.29km/h

(3) 34.29km/h

(4) 35km/h

(5) None of these

AVERAGES

Q 17. A constant distance from A to B is covered by a man at 40km/h. The person rides back the same distance at 30km/h. Find his approximate average speed during the whole journey.

(1) 34km/h

(2) 35.29km/h

(3) 34.29km/h

(4) 35km/h

(5) None of these

AVERAGES

Q 18. A person divides his total route of a journey into three equal parts and decides to travel the three parts with speeds of 20, 15, and 10 km/hr respectively. Find his average speed during the whole journey.

(1) 13(11/13) km/h

(2) 11(11/13) km/h

(3) 13(3/13) km/h

(4) 11(3/13) km/h

(5) None of these

AVERAGES

Q 18. A person divides his total route of a journey into three equal parts and decides to travel the three parts with speeds of 20, 15, and 10 km/hr respectively. Find his average speed during the whole journey.

(1) 13(11/13) km/h

(2) 11(11/13) km/h

(3) 13(3/13) km/h

(4) 11(3/13) km/h

(5) None of these

AVERAGES

Q 19. A person covers 18 km at 6km/h, 16km at 8km/h and 30km at 6km/h. Find the average speed in covering the whole distance:

(1) 6.5km/h

(2) 6.4km/h

(3) 6.2km/h

(4) 6km/h

(5) None of these

AVERAGES

Q 19. A person covers 18 km at 6km/h, 16km at 8km/h and 30km at 6km/h. Find the average speed in covering the whole distance:

(1) 6.5km/h

(2) 6.4km/h

(3) 6.2km/h

(4) 6km/h

(5) None of these

AVERAGES

Q 20. A person runs the first 1/4th of the distance at a speed of 8km/h, the next 3/5th at a speed of 6km/h, and the remaining distance at a speed of 10km/hr. Find his average speed:

(1) 17km/h

(2) 17.87km/h

(3) 17.78km/h

(4) 18.5km/h

(5) 6(98/117)km/h

AVERAGES

Q 20. A person runs the first 1/4th of the distance at a speed of 8km/h, the next 3/5th at a speed of 6km/h, and the remaining distance at a speed of 10km/hr. Find his average speed:

(1) 17km/h

(2) 17.87km/h

(3) 17.78km/h

(4) 18.5km/h

(5) 6(98/117)km/h

AVERAGES

Q 21. The average salary of the entire staff in an office is Rs130 per month. The average salary of officers is Rs540 and that of non-officers is Rs114. If the number of officers is 16, find the number of non-officers in the office:

(1) 140

(2) 410

(3) 510

(4) 150

(5) None of these

AVERAGES

Q 21. The average salary of the entire staff in an office is Rs130 per month. The average salary of officers is Rs540 and that of non-officers is Rs114. If the number of officers is 16, find the number of non-officers in the office:

(1) 140

(2) 410

(3) 510

(4) 150

(5) None of these

AVERAGES

Q 22. There were 42 students in a hostel. If the number of students increases by 7, the expenses of the mess increase by Rs32.5 per day while the average expenditure per head diminishes by Rs1.5. Find the original expenditure of the mess:

(1) 636

(2) 536

(3) 630

(4) 656

(5) None of these

AVERAGES

Q 22. There were 42 students in a hostel. If the number of students increases by 7, the expenses of the mess increase by Rs32.5 per day while the average expenditure per head diminishes by Rs1.5. Find the original expenditure of the mess:

(1) 636

(2) 536

(3) 630

(4) 656

(5) None of these

AVERAGES

Q 23. There were 36 students in a hostel. If the number of students increases by 4, the expenses of the mess increase by Rs32 per day while the average expenditure per head diminishes by Rs1. Find the original expenditure of the mess:

(1) 640

(2) 648

(3) 650

(4) 658

(5) None of these

AVERAGES

Q 23. There were 36 students in a hostel. If the number of students increases by 4, the expenses of the mess increase by Rs32 per day while the average expenditure per head diminishes by Rs1. Find the original expenditure of the mess:

(1) 640

(2) 648

(3) 650

(4) 658

(5) None of these

AVERAGES

Q 24. The average marks scored by Ganesh in English, Science, Mathematics, and History is less than 15 than that scored by him in English, History, Geography, and Mathematics. What is the difference in marks in Science and Geography scored by him?

(1) 40

(2) 50

(3) 60

(4) Data inadequate

(5) None of these

AVERAGES

Q 24. The average marks scored by Ganesh in English, Science, Mathematics, and History is less than 15 than that scored by him in English, History, Geography, and Mathematics. What is the difference in marks in Science and Geography scored by him?

(1) 40

(2) 50

(3) 60

(4) Data inadequate

(5) None of these

AVERAGES

Q 25. The average temperature on Monday, Tuesday, and Wednesday was 40°C. The average temperature on Tuesday, Wednesday, and Thursday was 41°C. If the temperature on Thursday was 42°C, what was the temperature on Monday?

(1) 39°C

(2) 45°C

(3) 44°C

(4) 40°C

(5) None of these

AVERAGES

Q 25. The average temperature on Monday, Tuesday, and Wednesday was 40°C. The average temperature on Tuesday, Wednesday, and Thursday was 41°C. If the temperature on Thursday was 42°C, what was the temperature on Monday?

(1) 39°C

(2) 45°C

(3) 44°C

(4) 40°C

(5) None of these

AVERAGES

Q 26. The average attendance of a college for the first three days of a week is 325, and for the first four days, it is 320. How many were present on the fourth day?

(1) 305

(2) 350

(3) 530

(4) 503

(5) None of these

AVERAGES

Q 26. The average attendance of a college for the first three days of a week is 325, and for the first four days, it is 320. How many were present on the fourth day?

(1) 305

(2) 350

(3) 530

(4) 503

(5) None of these

AVERAGES

Q 27. A car runs for t_1 hours at v_1 km/h, t_2 hours at v_2 km/ h. What is the average speed of the car for the entire journey?

(1) $\frac{t_1 + t_2}{v_1 t_1 + v_2 t_2}$ km/hr (2) $\frac{v_1 t_1 + v_2 t_2}{t_1 + t_2}$ km/hr (3) $\frac{v_1 t_2 + v_2 t_1}{v_1 + v_2}$ km/hr (4) $\frac{v_1 + v_2}{v_1 t_1 + v_2 t_2}$ km/hr

ANSWER - 2

AVERAGES

Q 28. An airplane covers the four sides of a square field at speeds of 200, 400, 600, and 800 km/hr. What is the average speed of the plane during the entire journey?

(1) 600km/h

(2) 400km/h

(3) 500km/h

(4) 384km/h

(5) None of these

AVERAGES

Q 28. An airplane covers the four sides of a square field at speeds of 200, 400, 600, and 800 km/hr. What is the average speed of the plane during the entire journey?

(1) 600km/h

(2) 400km/h

(3) 500km/h

(4) 384km/h

(5) None of these

AVERAGES

Q 29. The average age of the three boys is 15 years. Their ages are in the ratio 3: 5 : 7. The age of the oldest is:

(1) 7 years

(2) 14 years

(3) 20 years

(4) 21 years

(5) None of these

AVERAGES

Q 29. The average age of the three boys is 15 years. Their ages are in the ratio 3: 5 : 7. The age of the oldest is:

(1) 7 years

(2) 14 years

(3) 20 years

(4) 21 years

(5) None of these

AVERAGES

Q 30. The population of a town increased by 20% during the first year, increased by 25% during the next year, and increased by 44% during the third year. Find the average rate of increase during 3 years :

(1) 36.87%

(2) 37.68%

(3) 38(2/3)%

(4) 40%

(5) None of these

AVERAGES

Q 30. The population of a town increased by 20% during the first year, increased by 25% during the next year, and increased by 44% during the third year. Find the average rate of increase during 3 years :

(1) 36.87%

(2) 37.68%

(3) 38(2/3)%

(4) 40%

(5) None of these

AVERAGES

Q 31. An investor earns a 3% return on 1/4th of this capital, 5% on 2/3rd of his capital, and 11% on the remaining of his capital. What is the average rate of return he earns on his total capital?

(1) 5%

(2) 10%

(3) 5.5%

(4) 10.5%

(5) None of these

AVERAGES

Q 31. An investor earns a 3% return on 1/4th of this capital, 5% on 2/3rd of his capital, and 11% on the remaining of his capital. What is the average rate of return he earns on his total capital?

(1) 5%

(2) 10%

(3) 5.5%

(4) 10.5%

(5) None of these

AVERAGES

Q 32. The average of 8 readings is 24.3, out of which the average for the first two is 18.5 and that of the next three is 21.2. If the sixth reading is 3 less than the seventh and 8 less than the eighth, what is the sixth reading?

(1) 24.8

(2) 26.5

(3) 27.6

(4) 29.4

(5) None of these

AVERAGES

Q 32. The average of 8 readings is 24.3, out of which the average for the first two is 18.5 and that of the next three is 21.2. If the sixth reading is 3 less than the seventh and 8 less than the eighth, what is the sixth reading?

(1) 24.8

(2) 26.5

(3) 27.6

(4) 29.4

(5) None of these

AVERAGES

Q 33. The average age of a family of 6 members is 22 years. If the age of the youngest member is 7 years, the average age of the family at the birth of the youngest member, was:

(1) 15 years

(2) 17 years

(3) 17.5 years

(4) 18 years

(5) None of these

AVERAGES

Q 33. The average age of a family of 6 members is 22 years. If the age of the youngest member is 7 years, the average age of the family at the birth of the youngest member, was:

(1) 15 years

(2) 17 years

(3) 17.5 years

(4) 18 years

(5) None of these

AVERAGES

Q 34. The average age of a husband and wife was 23 years when they were married(5 years ago). The average age of the husband, the wife, and a child who was born during this interval, is 20 years now. How old is the child now?

(1) 9 months

(2) 1 year

(3) 3 years

(4) 4 years

(5) None of these

AVERAGES

Q 34. The average age of a husband and wife was 23 years when they were married(5 years ago). The average age of the husband, the wife, and a child who was born during this interval, is 20 years now. How old is the child now?

(1) 9 months

(2) 1 year

(3) 3 years

(4) 4 years

(5) None of these

AVERAGES

Q 35. The average height of 40 students is 163cm. On a particular day, three students A, B, and C were absent and the average of the remaining 37 students was found to be 162cm. If A, and B have equal heights and the height of C is 2cm less than that of A, find the height of A:

(1) 176cm

(2) 166cm

(3) 180cm

(4) 186cm

(5) None of these

AVERAGES

Q 35. The average height of 40 students is 163cm. On a particular day, three students A, B, and C were absent and the average of the remaining 37 students was found to be 162cm. If A, and B have equal heights and the height of C is 2cm less than that of A, find the height of A:

(1) 176cm

(2) 166cm

(3) 180cm

(4) 186cm

(5) None of these

AVERAGES

Q 36. Out of three numbers, the first is twice the second and half of the third. If the average of the three numbers is 56, the three numbers in order are :

(1) 36, 18, 72

(2) 48, 24, 96

(3) 40, 20, 80

(4) 52, 26, 104

(5) None of these

AVERAGES

Q 36. Out of three numbers, the first is twice the second and half of the third. If the average of the three numbers is 56, the three numbers in order are :

(1) 36, 18, 72

(2) 48, 24, 96

(3) 40, 20, 80

(4) 52, 26, 104

(5) None of these

AVERAGES

Q 37. The average weight of 3 men A, B, and C is 84kg. Another man D joins the group and the average now becomes 80kg. If another man E, whose weight is 3kg more than that of D, replaces A, then the average weight of B, C, D, and E becomes 79kg. The weight of A is :

(1) 70kg

(2) 72kg

(3) 75kg

(4) 80kg

(5) None of these

AVERAGES

Q 37. The average weight of 3 men A, B, and C is 84kg. Another man D joins the group and the average now becomes 80kg. If another man E, whose weight is 3kg more than that of D, replaces A, then the average weight of B, C, D, and E becomes 79kg. The weight of A is :

(1) 70kg

(2) 72kg

(3) 75kg

(4) 80kg

(5) None of these

Q.38 The bowling average of a cricketer was 12.4. He improves his bowling average by 0.2 points when he takes 5 wickets for 26 runs in his last match. The number of wickets taken by him before the last match was

(1) 150

(2) 200

(3) 125

(4) 175

Q.38 The bowling average of a cricketer was 12.4. He improves his bowling average by 0.2 points when he takes 5 wickets for 26 runs in his last match. The number of wickets taken by him before the last match was

(1) 150

(2) 200

(3) 125

(4) 175