

1. The average of first ten prime numbers is:

- A. 10.1
- B. 10
- C. 12.9
- D. 13
- E. None of these

2. The average of all odd numbers less than 100 is:

- A. 49.5
- B. 50
- C. 50.5
- D. 51
- E. None of these

3. The average of nine consecutive numbers is n . If the next two numbers are also included, then the new average will:

- A. increase by 2
- B. remain the same
- C. increase by 1.5
- D. increase by 1
- E. None of these

4. If average of 20 observation x_1, x_2, \dots, x_{20} is y , then the average of $x_1-101, x_2-101, x_3-101, \dots, x_{20}-101$ is:

- A. $y-20$
- B. $y-101$
- C. $20y$
- D. $101y$
- E. None of these



5. The average of n numbers x_1, x_2, \dots, x_n is \bar{x} . Then the value of $\sum_{i=1}^n (x_i - \bar{x})$ is equal to

- A. n
- B. 0
- C. $n\bar{x}$
- D. x
- E. None of these

6. The average of x numbers is y^2 and the average of y numbers is x^2 . Find the average of all the numbers taken together.

- A. $\frac{x^3 + y^3}{x + y}$
- B. xy

$$\frac{x^2 + y^2}{x + y}$$

C. $xy^2 + yx^2$

- D.
E. None of these

7. If the average of m numbers is n^2 and that of n numbers is m^2 . Then find the average of $(m + n)$ numbers.

$$\frac{m}{n}$$

- A. $\frac{m}{n}$
B. $m + n$
C. mn
D. $m - n$
E. None of these

8. Fifteen movie theatres average 600 customers per theatre per day. If six of the theatres close down but the total theatre attendance stays the same, then the average daily attendance per theatre among the remaining theatres is:

- A. 900
B. 1000
C. 1100
D. 1200
E. None of these

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9. The average of 8 numbers is 20. The average of first two numbers is $15\frac{1}{2}$ and that of the next three is $21\frac{1}{3}$. If the sixth number be less than the seventh and eighth numbers by 4 and 7 respectively, then the eighth number is :

- A. 18
B. 22
C. 25
D. 27
E. None of these

10. A student finds the average of ten 2-digit numbers. While copying numbers, by mistake, he writes one number with its digits interchanged. As a result his answer is 1.8 less than the correct answer. The difference of the digits of the number, in which he made mistake, is :

- A. 2
B. 3
C. 4
D. 6

E. None of these

11. In an exam, the average marks obtained by the students was found to be 60. After omission of computational errors, the average marks of some 100 candidates had to be changed from 60 to 30 and the average with respect to all the examinees came down to 45 marks. The total number of candidates who took the exam, was

A. 200

B. 210

C. 240

D. 180

E. None of these

12. Find average 1, 2,2 3,3,3 4,4,4,4 7,7,7,7,7,7,7.

A. 28

B. 5

C. 20

D. 140

E. None of these

13. If the mean of a, b, c is M and $ab + bc + ca = 0$, then the mean of a^2, b^2, c^2 is:

A. $3M \times M$

B. $3M$

C. $9M$

D. $9M \times M$

E. None of these

14. The average weight of 8 persons increases by 2.5 kg when a new person comes in place of one them weighing 65 kg. What might be the weight of the new person?

A. 65 kg

B. 70 kg

C. 85 kg

D. 92 kg

E. None of these

15. The average age of the boys in a class is 16 years and that of the girls is 15 years. The average age for the whole class is:

A. 15

B. 16

C. 17

D. Data inadequate

E. None of these

16. The average age of a family of 9 members is 22 years. Surya is the youngest and his age is 6 years, then what was the average age of the family just before Surya was born?

A. 15

B. 16

- C. 18
- D. 20
- E. 24

17. Dhoni scored 8000 runs in a certain number of innings. In the next five innings, he was out of form and hence, could make only 85 runs, as a result his average reduced by 1 run. How many innings did he play in total?

- A. 160
- B. 165
- C. 170
- D. 175
- E. Cannot be determined

18. The weights of 19 people are in Arithmetic progression. The average weight of them is 19. If the heaviest is 37 Kgs. Then what is the weight of the Lightest?

- A. 1 Kg
- B. 2 Kg
- C. 3 Kg
- D. 4 kg
- E. Cannot be determined

19. The average weight of 40 Students is 32. If the Heaviest and Lightest are excluded the average weight reduces by A. If only the Heaviest is excluded then the average is 31. Then what is the weight of the Lightest?

- A. 30
- B. 31
- C. 32
- D. 33
- E. Cannot be determined

20. Average of 17 students in a class is X. When their marks are arranged in ascending order it was found to be in Arithmetic Progression. The class teacher found that rank the students who ranked 15th, 11th, 9th and 7th had copied the exam and hence they are suspended. Now the average of the remaining class is Y. Then

- A. $X = Y$
- B. $X > Y$
- C. $X < Y$
- D. $X = 2Y$
- E. Data insufficient

21. The average monthly expenditure of Mr.Ravi's family for the first three months is Rs 2,750, for the next three months is Rs 2,940 and for the last three months Rs 3,150. If his family saves Rs 4980 for nine months, find the average monthly income of the family for the 9 months?

- A. Rs. 3800
- B. Rs. 3500
- C. Rs. 3400

D. Rs. 4200

E. Rs. 4500

22. The average age of a family of 8 members is 24 years. If the age of the youngest member be 6 years, the average age of the family at the birth of the youngest member was?

A. 23.42 years

B. 21.42 years

C. 27.42 years

D. 26.42 years

E. 24.42 years

23. Mr. Ravi's family has 10 males and a few females, the average monthly consumption of rice per head is 8 kg. If the average monthly consumption of rice per head be 10 kg in the case of males and 6 kg in the case of females, find the number of females in Ravi's family?

A. 2

B. 4

C. 6

D. 10

E. 8

24. In a famous hotel the rooms were numbered from 201 to 230, each room gives an earning of Rs. 5000 for the first fifteen days of a month and for the latter half, Rs. 3000 per room. Find the average income per room per day over the month. (September)?

A. 2000

B. 3000

C. 4000

D. 5000

E. 3500

25. In a famous hotel, the rooms are numbered from 101 to 130 on the first floor, 201 to 220 on the second floor and 301 to 330 on the third floor. In the month of September, the room occupancy was 50% on the first floor, 80% on the second floor and 40% on the third floor. If it is also known that the room charges are Rs 200, Rs. 250 and Rs. 300 on each of the floors respectively, then find the average income per room in the hotel for the month of September?

A. Rs. 123.75

B. Rs. 132.50

C. Rs. 128.50

D. Rs. 143.50

E. Rs. 223.75

26. The average presence of students of a class in a College on Monday, Tuesday and Wednesday is 32 and on the Wednesday, Thursday, Friday and Saturday is 30. if the average number of students on all the six days is 26 then the number of students who attended the class on Wednesday is?

A. 50

B. 40

C. 60

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- D. 70
- E. 80

27. Suresh started his journey from P to Q by his bike at the speed of 40 kmph and then, the same distance he travelled on his foot at the speed of 10 kmph from Q to R. Then he returned from R to P via Q at the speed of 24 kmph. The average speed of the whole trip is:

- A. 18.5 kmph
- B. 19.8 kmph
- C. 18.2 kmph
- D. 19.2 kmph
- E. None of these

28. Ramesh walked 6 km to reach the station from his house, then he boarded a train whose average speed was 60 kmph and thus he reached his destination. In this way he took a total time of 3 hours. If the average speed of the entire journey was 32 kmph then the average speed of walking is:

- A. 5 kmph
- B. 8 kmph
- C. 2 kmph
- D. 4 kmph
- E. None of these

29. Bala travels first one-third of the total distance at the speed of 10 kmph and the next one-third distance at the speed of 20 kmph and the last one – third distance at the speed of 60 kmph. What is the average speed of Bala?

- A. 18 kmph
- B. 19 kmph
- C. 16 kmph
- D. 12 kmph
- E. None of these

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30. The average income of Arun, Bala and Chitra is Rs. 12,000 per month and average income of Bala, Chitra and David is Rs. 15,000 per month. If the average salary of David be twice that of Arun, then the average salary of Bala and Chitra is in Rs?

- A. 15,000
- B. 20,000
- C. 14500
- D. 13500
- E. None of these

31. The average age of a husband and his wife was 25 years when they were married 7 years ago. Now the average age of husband, wife and his son is 23 years. Find the age of son now.

- A. 3yr
- B. 4yr
- C. 5yr
- D. 6yr
- E. None of these

32. The average of 10 reading is 25.5. In this the average of first three is 20 and the next four is 26. If the eight reading is 5 less than the ninth one and also 8 less than the tenth one, then find the eighth reading?

- A. 22
- B. 24
- C. 26
- D. 28
- E. None of these

33. The average of first and second number is 25 more than the average of the second and third number. Find the difference between the first and the third number

- A. 20
- B. 30
- C. 40
- D. 50
- E. None of these

34. In a hostel there are 30 students and if the number of students increased by 5 then the expense is increased by 40 per day. But the average expenditure diminishes by 3. Find the original expenditure.

- A. 810
- B. 870
- C. 910
- D. 950
- E. None of these

35. The average age of a class is 19 years. While the average age of boys is 20 and the average age of girls is 17. If the number of boys is 20 then find the number of girls in the class

- A. 10
- B. 15
- C. 16
- D. 18
- E. None of these

36. From the salary, Akilesh spent 15% for house rent, 5% for children's education and 15% for Entertainment. Now he left with Rs.13,000. His salary is

- A. 19,000
- B. 20,000
- C. 18,000
- D. 15,000
- E. None of these

37. In a School, 40% of the students are female and thus the no of boys exceed the no of girls by 40. Find the total no of students.

- A. 190
- B. 100

- C. 200
- D. 180
- E. None of these

38. In an examination 30% of the students failed in Science, 45% of the students failed in Maths and 25% of the students failed in both subjects. Find the % of the students passed ?

- A. 60%
- B. 30%
- C. 45%
- D. 50%
- E. None of these

39. In an examination Ammu scored 56% marks, Saran scored 90% marks and Rima scored 650 marks that is 65% then find the total marks of three students ?

- A. 2110
- B. 1250
- C. 2450
- D. 2010
- E. None of these

40. The salary of a workers increased by 15% and decreased by 7%, What % change rises in his salary ?

- A. 10%
- B. 7%
- C. 5%
- D. 8%
- E. None of these

41. If x is 20% more than y , then by what percent y is smaller than x .

- A. $50/3$ %
- B. $40/3$ %
- C. $46/3$ %
- D. $47/3$ %
- E. None of these

42. In an alloy, there is 15% of brass, to get 90 kg of brass, how much alloy is needed ?

- A. 400 kg
- B. 500 kg
- C. 600 kg
- D. 700 kg
- E. None of these

43. 25 litre of solution contains alcohol and water in the ratio 2:3. How much alcohol must be added to the solution to make a solution containing 60% of alcohol ?

- A. 10.5 ltr
- B. 11.5 ltr

- C. 12.5 ltr
- D. 13.5 ltr
- E. None of these

44. In an examination if a person get 20% of the marks then it is fail by 30 marks. Another person who gets 30% marks gets 30 marks more than the passing marks. Find out the total marks and the passing marks.

- A. 600 and 150
- B. 600 and 180
- C. 500 and 150
- D. 500 and 180
- E. None of these

45. A company has produced 900 pieces of transistor out of which 15% are defective and out of remaining 20 % were not sold. Find out the number of sold transistor.

- A. 610
- B. 611
- C. 612
- D. 614
- E. None of these

46. In an election the votes between the winner and loser candidate are in the ratio 5:1. If total number of eligible voters are 1000, out of which 12% did not cast their vote and among the remaining vote 10% declared invalid. What is the number of votes the winner candidate get ?

- A. 620
- B. 630
- C. 640
- D. 660
- E. None of these

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47. If the price of a commodity is increased by 30%, by how much % a consumer must reduce his consumption so to keep the expenditure same ?

- A. 100/13
- B. 200/13
- C. 300/13
- D. 400/13
- E. None of these

48. 1000 sweets need to be distributed equally among the school students in such a way that each student gets sweet equal to 10% of total students. Then the number of sweets, each student gets.

- A. 10
- B. 12
- C. 14
- D. 16
- E. None of these

49. Rishi salary is first increased by 20% and then decreased by 25%. How much percent the salary increased/decreased ?

- A. 5%
- B. 10%
- C. 15%
- D. 20%
- E. None of these

50. The income of a person is 10000 and its expenditure is 6000 and thus saves 4000rs. In the next year his income is increased by 10% and its expenditure increased by 20%. Now his saving is what percent lower than the previous saving.

- A. 5%
- B. 7.5%
- C. 10%
- D. 15%
- E. None of these

51. From the salary, Akilesh spent 15% for house rent, 5% for children's education and 15% for Entertainment. Now he left with Rs.13,000. His salary is

- A. 19,000
- B. 20,000
- C. 18,000
- D. 15,000
- E. None of these

52. In a School, 40% of the students are female and thus the no of boys exceed the no of girls by 40. Find the total no of students.

- A. 190
- B. 100
- C. 200
- D. 180
- E. None of these

53. In an examination 30% of the students failed in Science, 45% of the students failed in Maths and 25% of the students failed in both subjects. Find the % of the students passed ?

- A. 60%
- B. 30%
- C. 45%
- D. 50%
- E. None of these

54. In an examination Ammu scored 56% marks, Saran scored 90% marks and Rima scored 650 marks that is 65% then find the total marks of three students ?

- A. 2110
- B. 1250

- C. 2450
- D. 2010
- E. None of these

55. The salary of a workers increased by 15% and decreased by 7%, What % change rises in his salary ?

- A. 10%
- B. 7%
- C. 5%
- D. 8%
- E. None of these

56. The population of a village is decreased by 12% and 10% in 2 successive years. What % population is decreased after 2 years ?

- A. 18.4%
- B. 30.6%
- C. 20.8%
- D. 23.5%
- E. None of these

57. In an examination, 30% of the maximum marks required to pass. A student get 120marks and failed by 90marks. Find the maximum marks

- A. 800
- B. 720
- C. 650
- D. 700
- E. None of these

58. P's income is 20% more than Q's income. How much % Q's income less than P's income ?

- A. 18.54%
- B. 16.67%
- C. 17.76%
- D. 15.75%
- E. None of these

59. The price of rice is increased by 15%. The percentage of reduction that a family should effect in that use of rice, so as not to increase the expenditure is

- A. 13%
- B. 10%
- C. 15%
- D. 17%
- E. None of these

60. The value of commodity depreciated 20% annually. If the value of commodity 3yrs ago was Rs.10,500,Find it's present value ?

- A. 3678

- B. 5700
- C. 4567
- D. 5376
- E. None of these

61. One type of liquid contains 20% water and the second type of liquid contains 35% water. A glass filled with 8 parts of the first liquid and 5 parts of the second liquid. The water percentage in the new mixture is

- A. 25.75
- B. 25.76
- C. 25.67
- D. 25.56
- E. None of these

62. In an examination there are 3 subjects Maths, Science and Social of 100 marks each. Ganesh scores 60% and 80% in Maths and Science. He scored 70% in aggregate. His Percentage of mark in Social is

- A. 50
- B. 60
- C. 70
- D. 80
- E. None of these

63. If the radius of the circle is increased by 5% then the area is increased by

- A. 10.20
- B. 10.22
- C. 10.24
- D. 10.25
- E. None of these

64. A number is mistakenly divided by 8 instead of being multiplied by 8. What is the percentage of error in the result ?

- A. 98.43
- B. 98.34
- C. 95.76
- D. 97.76
- E. None of these

65. A book consist of 45 pages, 30 lines on each page and 60 character on each line. If this content is written in another note book consisting of 40 lines and 32 character per line then the required no of pages will be how much percentage more than the previous no of pages ?

- A. 20%
- B. 30%
- C. 40%
- D. 50%
- E. None of these

66. In an election a candidate who got 25% of the total votes polled was defeated by his rival by 270 votes. Assuming that there were only 2 candidates in the election, the total number of votes polled was

- A. 400
- B. 500
- C. 440
- D. 540
- E: None of these

67. The total number of girls in a class is 45% more than the total number of boys in the class. The total number of students in the class is 294 then what is the difference between the total number of girls and boys ?

- A. 54
- B. 52
- C. 76
- D. 78
- E: 70

68. The population of a town is 16500. During the last 3 years, the population increased at the rate of 20% per year. The population 3 years ago was

- A. 9546
- B. 9547
- C. 9548
- D. 9549
- E: 9550

69. The mean annual salary paid to all employees was Rs.5000. The mean annual salary paid to all male and female workers were Rs.5200 and Rs.4200. The percentage of female worker in the company is

- A. 80%
- B. 20%
- C. 60%
- D. 40%
- E: None of these

70. The passing marks in an examination is 40%. If Ashok gets 88 marks and is declared failed by 10 marks, then the maximum mark in the examination is

- A. 240
- B. 242
- C. 245
- D. 246
- E: None of these

71. A is directly proportional to B and also directly proportional to C. When $B = 6$ and $C = 2$, $A = 24$. Find the value of A when $B = 8$ and $C = 3$.

- A. 42
- B. 40
- C. 58

- D. 48
- E. None of these

72. A is directly proportional to B and also inversely proportional to the square of C. When B = 16 and C = 2, A = 36. Find the value of A when B = 32 and C = 4.

- A. 25
- B. 20
- C. 18
- D. 32
- E. None of these

73. A is directly proportional to the inverse of B and also inversely proportional to C. When B = 36 and C = 9, A = 42. Find the value of A when B = 64 and C = 21.

- A. 24
- B. 40
- C. 32
- D. 48
- E. None of these

74. Divide Rs.2340 into three parts, such that first part be double that of second part and second part be $\frac{1}{3}$ of the third part. Find the Third part amount?

- A.Rs.780
- B.Rs.1170
- C.Rs.750
- D.Rs.390
- E.None of these

75. The ratio of income of A and B is 2:3. The sum of their expenditure is Rs.8000 and the amount of savings of A is equal to the amount of expenditure of B. What is the their ratio of sum of income to their sum of savings?

- A.5:3
- B.3:2
- C.4:3
- D.3:1
- E.None of these

76. There are 2 containers of equal capacity. The ratio of milk to water in the first container is 4:5 and in the second container is 3:7.If they are mixed up then the ratio of milk to water in the mixture will be

- A.17:63
- B.65:96
- C.34:75
- D.67:113
- E.None of these

77. There are two numbers. When 25% of the first number is added to the second number, the resultant number is 1.5times the first number. What is the ratio of 1st number to the 2nd number ?

- A.3:5
- B.5:4
- C.4:5
- D.2:3
- E.None of these

78. A bag contains 10p,25p and Rs50p coins in the ratio of 5:2:1 respectively. If the total money in the bag is Rs.120.Find the number of 25p coins in that bag?

- A.160
- B.130
- C.110
- D.90
- E.None of these

79. The ratio of Ganesh's age and his mother's age is 5:12.The difference of their ages is 21.The ratio of their ages after 4 years will be

- A.3:7
- B.6:11
- C.4:7
- D.19:40
- E.None of these

80. The ratio of students of three classes is 2:3:4. If 12 students are increased in each classes then their ratio turns into 13:18:23. What was the total number of students in all the three classes originally ?

- A.250
- B.215
- C.225
- D.190
- E.None of these

81. Ravi and Govind have money in the ratio 5 : 12 and Govind and Kiran also have money in the same ratio 5 : 12. If Ravi has Rs. 500, Kiran has

- A.Rs.2500
- B.Rs.2880
- C.Rs.1850
- D.Rs.3100
- E.None of these

82. A town with a population of 1000 has provision for 30days, after 10 days 600 more men added, how long will the food last at the same rate ?

- A.12 days
- B.14 ½ days
- C.12 ½ days
- D.15 days
- E.None of these

83. A man spends Rs.2480 to buy lunch box Rs.120 each and bottles at Rs.80 each, What will be the ratio of maximum number of bottles to lunch box are bought ?
- A.13:12
B.11:13
C.9:12
D.7:10
E.None of these
84. Three cars travel same distance with speeds in the ratio 2 : 4 : 7. What is the ratio of the times taken by them to cover the distance?
- A. 12 : 6 : 7
B. 14 : 7 : 4
C. 10 : 5 : 9
D. 7 : 4 : 14
E. 14 : 10 : 7
85. Section A and section B of 7th class in a school contains total 285 students. Which of the following can be a ratio of the ratio of the number of boys and number of girls in the class?
- A. 6 : 5
B. 10 : 9
C. 11 : 9
D. 13 : 12
E. Cannot be determined
86. 180 sweets are divided among friends A, B, C and D in which B and C are brothers also such that sweets divided between A and B are in the ratio 2 : 3, between B and C in the ratio 2 : 5 and between C and D in ratio 3 : 4. What is the number of sweets received by the brothers together?
- A. 78
B. 84
C. 92
D. 102
E. 88
87. Number of students in 4th and 5th class is in the ratio 6 : 11. 40% in class 4 are girls and 48% in class 5 are girls. What percentage of students in both the classes are boys?
- A. 62.5%
B. 54.8%
C. 52.6%
D. 55.8%
E. 53.5%
88. Consider two alloys A and B. 50 kg of alloy A is mixed with 70 kg of alloy B. A contains, brass and copper in the ratio 3 : 2, and B contains them in the ratio 4 : 3 respectively. What is the ratio of copper to brass in the mixture?
- A. 8 : 5

- B. 7 : 5
- C. 5 : 11
- D. 4 : 9
- E. 5 : 7

89. Ratio of A and B is in the ratio 5 : 8. After 6 years, the ratio of ages of A and B will be in the ratio 17 : 26. Find the present age of B.

- A. 72
- B. 65
- C. 77
- D. 60
- E. None of these

90. A bag contains 25p, 50p and 1Re coins in the ratio of 2 : 4 : 5 respectively. If the total money in the bag is Rs 75, find the number of 50p coins in the bag.

- A. 45
- B. 50
- C. 25
- D. 40
- E. None of these

91. If $a : b = 2 : 1$, $9 : 3b : c = 2 : 5 : 7$ and $d : c = 7 : 3$ then $a : b : c : d$ is

- A. 4 : 6 : 7 : 9 : 8
- B. 16 : 24 : 30 : 35
- C. 8 : 12 : 15 : 7
- D. 30 : 35 : 24 : 16
- E. None of these

92. $a : (b + c) :: 1 : 3$ $c : (a + b) :: 5 : 7$ find $b : (a + c) = ?$

- A. 1 : 2
- B. 2 : 1
- C. 3 : 2
- D. 5 : 3
- E. None of these

93. If $(a + b) : (b + c) : (c + a) :: 4 : 7 : 9$
& $a + b + c = 30$ then find $c = ?$

- A. 16
- B. 17
- C. 15
- D. 18
- E. None of these

94. If $(a + b) : (b + c) : (c + a) :: 6 : 7 : 8$ & $a + b + c = 14$ then find $c = ?$

- A. 4

- B. 6
- C. 8
- D. 7
- E. None of these

$$\frac{a+b+c}{c} = ?$$

95. If $a:b :: 3:4$ & $b:c :: 4:7$. then

- A. 1
- B. 2
- C. 3
- D. 4
- E. None of these

96. If $(4x^2 - 3y^2) : (2x^2 + 5y^2) :: 12 : 19$ then $x : y = ?$

- A. 1 : 2
- B. 4 : 3
- C. 4 : 5
- D. 3 : 2
- E. None of these

$$Q = \frac{p+q+r}{2} \&$$

97. If

$(Q-p) : (Q-q) : (Q-r) :: 17 : 5 : 8$, then $p : q : r = ?$

- A. 16 : 19 : 21
- B. 7 : 8 : 5
- C. 14 : 19 : 21
- D. 13 : 25 : 22
- E. None of these

98. In a triangle ABC, $(s-a) : (s-b) : (s-c) :: 11 : 8 : 7$ where s is semi perimeter. a, b, c are sides find the ratio of $a : b : c$

- A. 7 : 8 : 11
- B. 14 : 17 : 19
- C. 15 : 18 : 19
- D. 9 : 13 : 21
- E. None of these

99. If $(x-y+z) : (y-z+2w) : (2x+z-w) = 2 : 3 : 5$, then $(3x+3z-2w) : w = ?$

- A. 7 : 1
- B. 4 : 3
- C. 9 : 1
- D. 8 : 1
- E. None of these

100. What is the mean proportional of $3 + \sqrt{2}, 12 - \sqrt{32}$, $3 + \sqrt{2}, 12 - \sqrt{32}$

- A. $4 - 2\sqrt{2}$
- B. $2\sqrt{7}$
- C. $2\sqrt{5}$
- D. 6
- E. None of these

