

Quantitative Aptitude Previous Year Question & Answers

1. Let C_1 and C_2 be the inscribed and circumscribed circles of a triangle with sides 3cm, 4cm and 5cm then find the ratio between the areas of C_1 and C_2 is

a) $9/16$

b) $9/25$

c) $4/25$

d) $16/25$

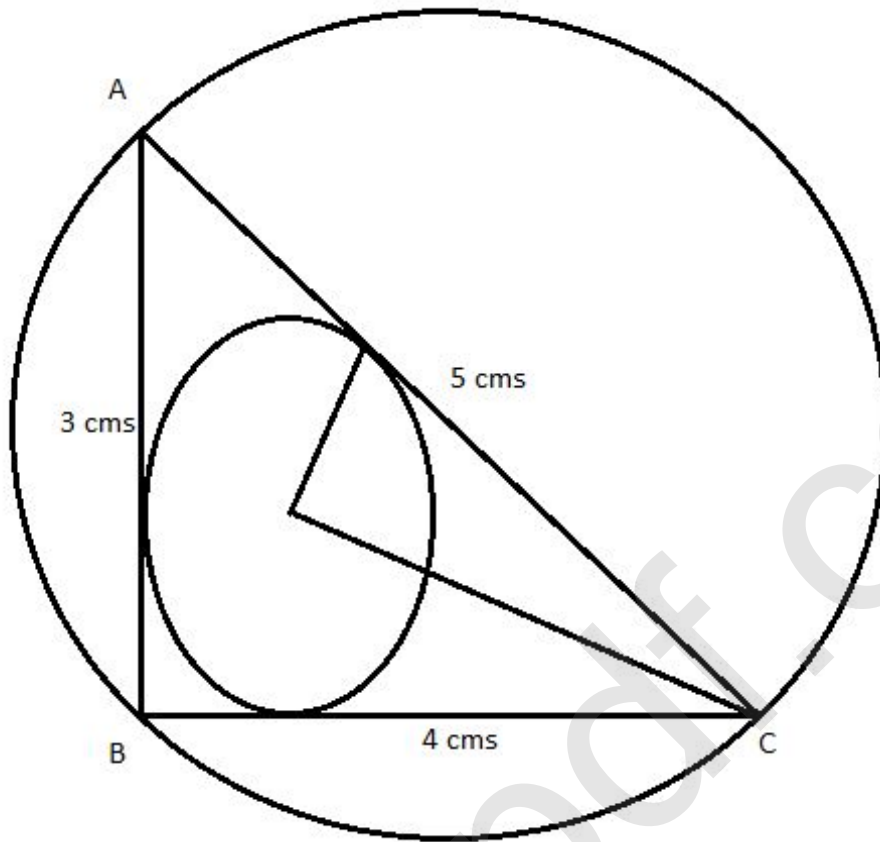
Ans. c.

Explanation: Since, sides are 3, 4, and 5 cms. Therefore, triangle will be a right-angled triangle.

The radius of the inscribed circle $C_1 = (3 + 4 - 5)/2 = 1$ cms.

The radius of the circumscribed circle $C_2 = 5/2 = 2.5$ cms. (because in this case, the hypotenuse will be the diameter of the circumscribed circle.)

$$\text{Area } C_1 / \text{Area } C_2 = \pi * (1)^2 / \pi * (2.5)^2 = 100/625 = 4/25;$$



2. If $x = 1/(\sqrt{2} + 1)$; then $(x + 1)$ equals to ?

a) 2

b) $\sqrt{2}-1$

c) $\sqrt{2}+1$

d) $\sqrt{2}$

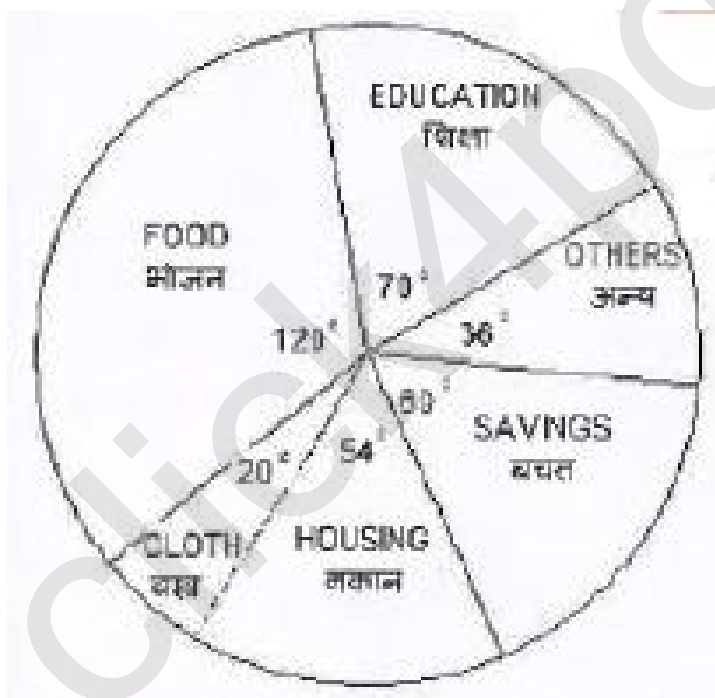
Ans. d.

Explanation:

$$x = \frac{1}{\sqrt{2}+1}; \Rightarrow x = \frac{\sqrt{2}-1}{(\sqrt{2}+1)(\sqrt{2}-1)} = \sqrt{2}-1$$

$$x+1 = \sqrt{2}-1+1 = \sqrt{2};$$

Directions/ In Question nos. / 3 to 5, The pie-chart given here shows expenditure incurred by a family on various items and their savings. Study the chart and answer the questions based on the pie-chart.



3. If the monthly income is Rs. 36000 then the yearly savings is:

a) Rs. 72000

b) Rs. 60000

c) Rs. 74000

d) Rs. 70000

Ans. a.

Explanation: Savings = 60;

Monthly Savings = $(60/360) \times 36000 = \text{Rs. } 6000.$

Yearly savings = $12 \times 6000 = \text{Rs. } 72000.$

4. If the expenditure on education is Rs. 1600 more than that of housing then the expenditure on food is:

a) Rs. 6000

b) Rs. 12000

c) Rs. 7000

d) Rs. 3333

Ans. b.

Explanation: Expenditure on education = 70

Expenditure on housing = 54

Difference between expenditure on education and housing = $70 - 54 = 16$;

Monthly expenditure on education = $(16/360) \times$ Monthly income;

Monthly income = $(1600 \times 360)/16 = \text{Rs. } 36000$

Hence, the expenditure of food = $(120 \times 36000)/360 = 12000$;

5. The ratio of expenditure on food to savings is:

a) 2 : 1

b) 3 : 1

c) 3 : 2

d) 10 : 9

Ans. a.

Explanation: The required ratio = $120/60 = 2: 1$;

6. The average marks obtained by a student in 6 subjects is 88. On subsequent verification it was found that the marks obtained by him in a subject was wrongly copied as 86 instead of 68. The correct average of the marks obtained by him is-

a) 85

b) 87

c) 84

d) 86

Ans. a.

Explanation: Suppose, these 6 subjects are $S_1, S_2, S_3, \dots, S_6$;

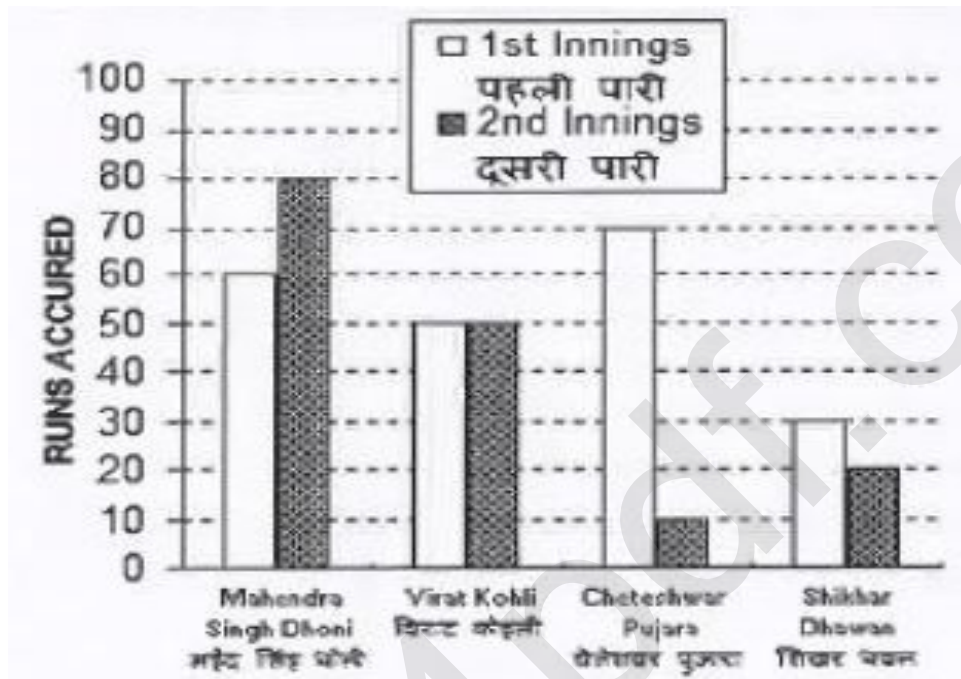
$$S_1 + S_2 + S_3 + \dots + S_6 = 88 \times 6 = 528;$$

$$\text{The actual sum of marks in all subjects} = 528 - 86 + 68 = 510;$$

$$\text{Hence, the correct average marks} = 510/6 = 85;$$

Directions / In Question nos. / 7 to 10, Given here a multiple bar diagram of the scores of four players in two innings. Study the diagram and answer the questions.

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7. The average run of two Innings of the player who scored highest in average is:

- a) 75
- b) 85
- c) 80
- d) 70

Ans. d.

Explanation: From the figure, it can be seen lucidly that Mahendra Singh Dhoni has scored the maximum runs. Hence,

The average runs scored by MS Dhoni = $(60 + 80)/2 = 70$.

8. The average run in two innings of the player who has scored minimum at the second innings is:

a) 50

b) 60

c) 40

d) 30

Ans. c.

Explanation: Cheteshwar Pujara scored the lowest marks in the second innings.

Hence, the average runs scored by him = $(70 + 10)/2 = 40$.

9. The average score in second innings contributed by the four players is:

a) 30

b) 60

c) 40

d) 50

Ans. c.

Explanation: Average run scored by all four player in second inning = $(80 + 50 + 10 + 20)/4 = 40$

1. The total scores in the first innings contributed by the four players is:

a) 220

b) 200

c) 210

d) 190

Ans. c.

Explanation: The total scores in the first innings by all four players = $(60 + 50 + 70 + 30) = 210$;

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