



Date : 18th Nov 2023

Special Question – Quantitative Aptitude

English

Q:1 Directions: Given below are three statements based on one condition. Solve all the statements and choose which of the option is correct.

The perimeter of an equilateral triangle PQR is 417 cm.

- (I) Side = 139 cm
- (II) Height = $69.5\sqrt{3}$ cm
- (III) If the side of the equilateral triangle is equal to the length of a rectangle whose area is 15568 cm^2 then, its breadth will be 112 cm.

- 1. Only I
- 2. Only II
- 3. Only III
- 4. All are correct
- 5. None of them

Q:2 Directions: Given below are three statements based on one condition. Solve all the statements and choose which of the option is correct.

A ten digit number $6847y884x8$ is divisible by 72. (x and y are natural numbers)

- (I) $y = 8$
- (II) $x = 9$
- (III) Value of $(2y - \sqrt{x}) = 10$

- 1. Only III
- 2. Only II
- 3. All are correct
- 4. Only Statement (I) and (II) are correct
- 5. None of them is correct

Q:3 Directions: Given below are three statements based on one condition. Solve all the statements and choose which of the following statements is/are incorrect.

The ratio of the ages of Ankit and Cabbie is 7 : 3. The average age of Ankit, Bhuvu, and Cabbie is 53 years and the average age of Ankit and Cabbie is 50 years.

- I. The age of Bhuvu is 59 years
- II. The age of Ankit after five years will be 75 years.
- III. The average age of all three after 10 years will be 66 years.

- 1. Only Statement (II) is incorrect
- 2. Both Statements (II) and (III) are incorrect
- 3. Only Statement (III) is incorrect
- 4. Both Statements (I) and (III) are incorrect
- 5. None of them is incorrect

Q:4 Directions: Given below are three statements based on one condition. Solve all the statements and choose which of the following options is correct.

The perimeter of a square is 68 cm^2 and the side of the square is equal to the side of the cube.

- I. The diagonal of the cube will be $17\sqrt{3}$.
- II. The total surface area of the cube is 568 cm^2 greater than the curved surface area of the cube.
- III. The difference between the volume of the cube and the area of the square will be 18 cm.

- 1. Only Statement (I) is correct
- 2. Only Statement (III) is correct
- 3. Both Statement (II) and (III) are correct
- 4. Both Statement (I) and (II) are correct
- 5. None of them is correct

Q:5 Directions: Given below are three statements based on one condition. Solve all the statements and choose which of the following statements is/are correct.

In an election between two candidates A and B, A gets 60% of the total valid votes. 25% of votes are invalid. The total number of votes is 123480. And the ratio of female voters to male voters is 8 : 10.

- I. The total number of votes A gets is 56406.
- II. B gets 33.33% votes less than A.
- III. The number of male voters is 25% greater than the number of female voters.

- 1. Only Statement (I) is correct
- 2. Both Statements (II) and (III) are correct
- 3. Only Statement (III) is correct
- 4. Both Statements (I) and (III) are correct
- 5. None of them is incorrect

Answer Key

1. (4) 2. (1) 3. (5) 4. (1) 5. (2)

Answers and Solutions

Q:1 The correct answer is **Option 4** i.e. **All are correct.**

Statement (I):

Perimeter of equilateral triangle = $3a$

$3a = 417$

$a = 139$ cm

Statement (II):

Height = $\frac{\sqrt{3}}{2} \times 139 = 69.5\sqrt{3}$ cm

Statement (III):

Length of the rectangle = 139 cm

Area of rectangle = $L \times B = 15568$

$139 \times B = 15568$

$B = 112$ cm

Hence, all the given statements are correct

Q:2 The correct answer is **Option 1** i.e. **Only III.**

6847y884x8 is divisible by 72

Hence, it is also divisible by 8 and 9

Divisibility Rule of 8:- If the last three digits of a number are divisible by 8, then the number is completely divisible by 8.

4x8 must be divisible by 8

So, $x = 4$

Divisibility rule of 9:- if the sum of all the digits of a number is divisible by 9, then the number would be divisible by 9.

$6 + 8 + 4 + 7 + y + 8 + 8 + 4 + 4 + 8 = 57 +$

y must be divisible by 9

So, $y = 6$

Statement (I): $y = 6$

Statement (II): $x = 4$

Statement (III):

Value of $(2y - \sqrt{x}) = (2 \times 6 - \sqrt{4}) = (12 - 2) = 10$

Hence, only statement III is correct

Q:3 The correct answer is **Option 5** i.e. **None of them is incorrect.**

Statement (I):

The sum of the age of Ankit and Cabbie = $2 \times 50 = 100$ years

The sum of the ages of Ankit, Bhuvi, and Cabbie = $3 \times 53 = 159$ years

So, The age of Bhuvi = $(159 - 100) = 59$ years

Statement (II):

The ratio of the ages of Ankit and Cabbie is $7 : 3 = 7x : 3x$

The sum of the age of Ankit and Cabbie = $2 \times 50 = 100$ years

$7x + 3x = 100$

$10x = 100$

$x = 10$

So, the age of Ankit = $7x = 70$ years

The age of Cabbie = $3x = 30$ years

So, the age of Ankit after 5 years = $70 + 5 = 75$

Statement (III):

The average age of all three after 10 years

The age of Ankit after 10 years = $70 + 10 = 80$

The age of Bhuvi after 10 years = $59 + 10 = 69$

The age of Chirag after 10 years = $30 + 10 = 40$

Average = $(89 + 69 + 40)/3 = 66$ years

Q:4 The correct answer is **Option 1** i.e. **Only Statement (I) is correct.**

Perimeter of square = $4 \times \text{side}$

$4 \times \text{side} = 68$

side = 17 cm

Statement (I):

The diagonal of the cube = $\sqrt{3} \text{ side} = 17\sqrt{3}$

Statement (II):

The T.S.A of cube = $6a^2$

The C.S.A of cube = $4a^2$

Difference = $2a^2 = 2 \times 17 \times 17 = 578 \text{ cm}^2$

Statement (III):

The difference between the volume of the cube and the area of the square = $\text{side}^3 - \text{side}^2 = (17)^3 - (17)^2 = 4624 \text{ cm}$

Q:5 The correct answer is **Option 2** i.e. **Both Statements (II) and (III) are correct.**

If A candidate gets 60% then, the B candidate will get 40% of the valid votes

25% of the votes are invalid

So, valid votes = 75% of total votes

75% of 125480 = 94110

The number of votes A get = 60% of 94110 = 56466

The number of votes B get = 40% of 94110 = 37644

Statement I.



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The total number of Votes A gets = 56466

Statement II.

The total number of Votes A gets = 56466

The total number of Votes B gets = 37644

Difference = 18822

Required percentage = $18822/56466 \times 100 = 33.33\%$

Statement III.

$8x + 10x = 123480$

$18x = 123480$

$x = 6860$

The number of female voters = $8x = 54880$

The number of male voters = $10x = 68600$

Difference = $68600 - 54880 = 13720$

Percentage = $13720/54880 \times 100 = 25\%$

