

## Arithmetic Questions

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**QID : 1** - Population of Patna city is 96,000, the decreasing rate of population is 800 per year. Population of Patliputra is 68,000, the increasing rate of population is 1200 per year. In how many years will the population of both places be equal?

**Options:**

- 1) 10
- 2) 14
- 3) 18
- 4) 22

**Correct Answer: 14**

**QID : 2** - The cost price of 3 exam pads and 2 pencils is Rs. 96, 4 exam pads and 3 pencils cost Rs. 134. Find the total cost (in Rs.) of an exam pad and that of a pencil.

**Options:**

- 1) 36
- 2) 38
- 3) 40
- 4) 42

**Correct Answer: 38**

**QID : 3** -

Determine the value of  $x^2 + y^2$  when  $x^3 - y^3 = 54$ ,  $x - y = 18$  and  $xy = 2$ .

$x^2 + y^2$  का मान निकालिए, जबकि  $x^3 - y^3 = 54$ ,  $x - y = 18$  और  $xy = 2$  है।

**Options:**

- 1) 0
- 2) 1
- 3) 2
- 4) 3

**Correct Answer: 1**

**QID : 4** - A zoo has few numbers of penguins and polar bears. The total number of heads of both of them is 60 and the total number of their feet is 160. How many polar bears are there in the zoo?

**Options:**

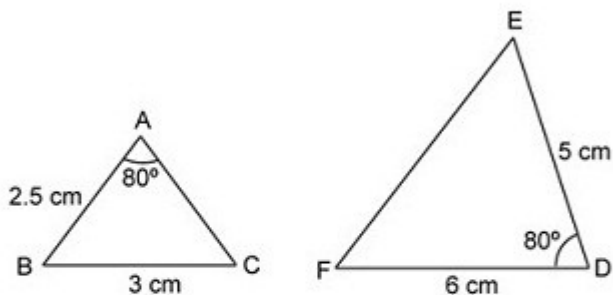
- 1) 20
- 2) 40
- 3) 60
- 4) 80

**Correct Answer: 20**

**QID : 5** -

Consider the following figure shown below and choose which of the following equation is CORRECT about the similarity of both triangles?

नीचे दी गई निम्न आकृति पर विचार करें और निम्नलिखित समीकरणों में से कौन सा दोनों त्रिभुज की समानता के बारे में सही है?



Options:

1)  
 $\triangle ABC \sim \triangle DEF$

2)  
 $\triangle ACB \sim \triangle DEF$

3)  
 $\triangle ABC \sim \triangle FDE$

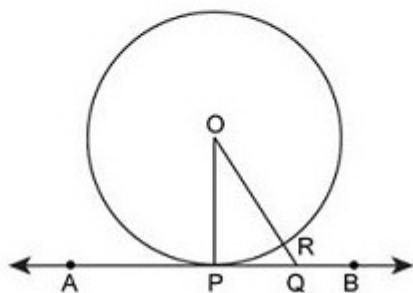
4) Both triangles are not similar.

**Correct Answer: Both triangles are not similar.**

QID : 6 -

Consider the following diagram as shown in figure in which AB is the tangent to the circle. Find the length of OQ (in cm) if the measure of largest chord of that circle is 6 cm and PQ is 4 cm.

निम्नलिखित चित्र पर विचार करें, जिसमें नीचे दिखाया गया है जिसमें AB वृत्त की स्पर्शरेखा है। OQ की लंबाई (सेमी में) ज्ञात करें, यदि उस वृत्त की सबसे बड़ी जीवा का माप 6 सेमी और PQ 4 सेंटीमीटर है।



Options:

- 1) 2
- 2) 3
- 3) 4
- 4) 5

**Correct Answer: 5**

QID : 7 - The income of P is 50% more than Q's income and the income of Q is 50% more than R's income. P's income is how much percentage more than R's income?

**Options:**

- 1) 225
- 2) 150
- 3) 125
- 4) 100

**Correct Answer: 125**

**QID : 8 - What number should be added to each of 7, 17, 22 and 47 so that the resulting numbers will be in proportion in the given order?**

**Options:**

- 1) 1
- 2) 3
- 3) 2
- 4) 4

**Correct Answer: 3**

**QID : 9 - In what ratio must a mixture of 15% spirit strength be mixed with that of 25% spirit strength to get a mixture of 21% spirit strength?**

**Options:**

- 1) 1 : 3
- 2) 2 : 3
- 3) 3 : 4
- 4) 4 : 5

**Correct Answer: 2 : 3**

**QID : 10 - The average of three numbers is 58. First number is  $\frac{3}{4}$  of the third number. If the third number is 24 more than second number, then what will be the difference between the first and second number?**

**Options:**

- 1) 24
- 2) 6
- 3) 16
- 4) 18

**Correct Answer: 6**

**QID : 11 - A sum of Rs 2500 becomes Rs 8100 in 2 years at a certain rate of compound interest. What will be the sum (in Rs) after 4 years?**

**Options:**

- 1) 29824
- 2) 36284
- 3) 41624
- 4) 26244

**Correct Answer: 26244**

**QID : 12 - Rahul sells two helmets at the rate of Rs 1232 each. He gains 12% on one and loses 12% on the other. What will be the total loss (in Rs) in the whole transaction?**

**Options:**

- 1) 54
- 2) 36
- 3) 18
- 4) 72

**Correct Answer: 36**

**QID : 13 - The marked price of a table is 50% more than its cost price. What discount percentage should be offered by the shopkeeper to sell his table at no profit or no loss?**

**Options:**

- 1) 66.66
- 2) 33.33
- 3) 40
- 4) 25

**Correct Answer: 33.33**

**QID : 14 - What is the least number that should be added to the product  $7 \times 8 \times 9 \times 10$  to make it a perfect square?**

**Options:**

- 1) 144
- 2) 1
- 3) 289
- 4) 3

**Correct Answer: 1**

**QID : 15 - Working 9 hours a day, Manish can read a book in 16 days. How many hours a day should he work so as to finish the same work in 24 days?**

**Options:**

- 1) 5
- 2) 7
- 3) 8
- 4) 6

**Correct Answer: 6**

**QID : 16 - Two trains are running in opposite direction with the same speed. If the length of each train is 80 metres and they cross each other in 16 seconds, then what is the speed (in km/hr) of each train?**

**Options:**

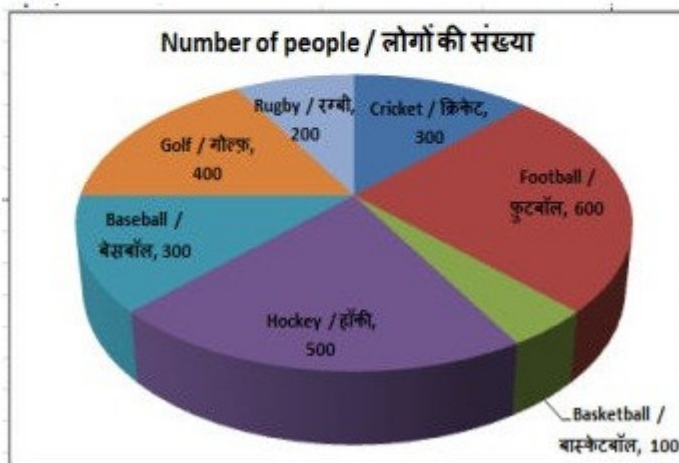
- 1) 12
- 2) 18
- 3) 24
- 4) 30

**Correct Answer: 18**

**QID : 17 -**

The pie chart shows the results of an online survey which asked people about their favourite game. Study the diagram and answer the following questions.

यह पाइ चार्ट एक ऑनलाइन सर्वेक्षण के परिणाम दर्शाता है जिसमें लोगों को उनके पसंदीदा खेल के बारे में पूछा गया था। इस आरेख का अध्ययन करें और निम्नलिखित प्रश्नों के उत्तर दें।



Which game is the favourite of most people surveyed?

Options:

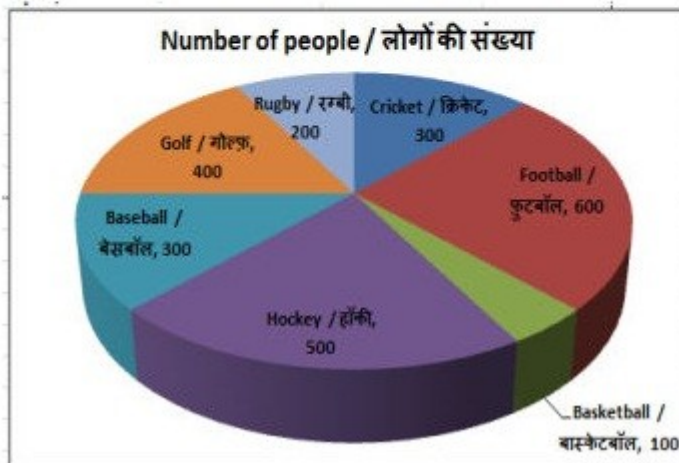
- 1) Basketball
- 2) Football
- 3) Hockey
- 4) Baseball

**Correct Answer: Football**

QID : 18 -

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What is the total number of people who have responded to the survey?

Options:

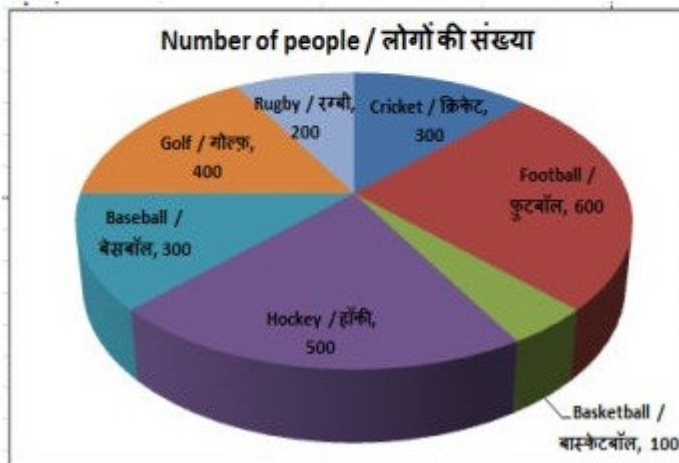
- 1) 2100
- 2) 2200
- 3) 2400
- 4) 2500

**Correct Answer: 2400**

QID : 19 -

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The measure of the central angle of the sector representing Baseball is \_\_\_\_\_ degrees.

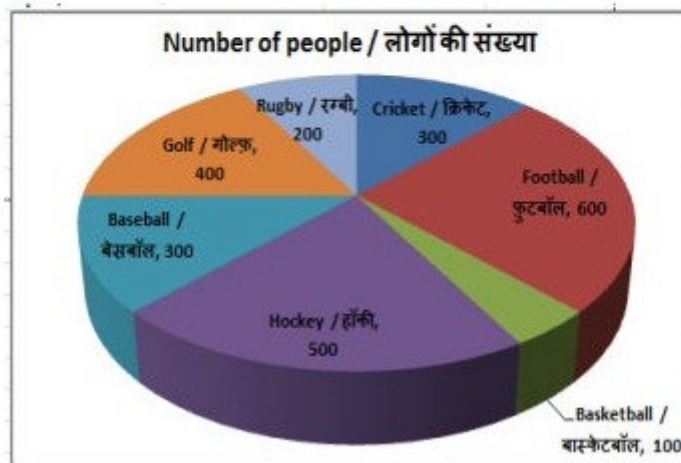
Options:

- 1) 30
- 2) 60
- 3) 75
- 4) 45

**Correct Answer: 45**

The pie chart shows the results of an online survey which asked people about their favourite game. Study the diagram and answer the following questions.

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QID : 20 -

Respondents who say their favourite game is Cricket and those who say their favourite game is Hockey constitute what percent of the total respondents?

Options:

- 1) 30%
- 2) 33.33%
- 3) 25%
- 4) 40%

**Correct Answer: 33.33%**

QID : 21 - The perimeter and the breadth of a rectangle are 52 cm and 12 cm respectively. Find its area (in cm<sup>2</sup>).

Options:

- 1) 84
- 2) 336
- 3) 168
- 4) 252

**Correct Answer: 168**

QID : 22 - Find the perimeter (in cm) of a semicircle of radius 7 cm.

Options:

- 1) 36
- 2) 72
- 3) 44
- 4) 88

**Correct Answer: 36**

QID : 23 - The curved surface area and the height of a right circular cylinder are 660 cm<sup>2</sup> and 10 cm respectively. Find its diameter (in cm).

Options:



- 1) 14
- 2) 10.5
- 3) 21
- 4) 17.5

**Correct Answer: 21**

**QID : 24 - What is the value of  $(\tan 30^\circ + \sqrt{3}/2)$  ?**

**Options:**

- 1)  $(4+\sqrt{3})/2$
- 2)  $5/2\sqrt{3}$
- 3)  $(4+\sqrt{3})/2\sqrt{3}$
- 4)  $(\sqrt{3}+1)/\sqrt{3}$

**Correct Answer:  $5/2\sqrt{3}$**

**QID : 25 - In  $\Delta XYZ$  measure of angle Y is  $90^\circ$ . If  $\sec X = 17/8$ , and  $XY = 0.8\text{cm}$ , then what is the length (in cm) of side XZ?**

**Options:**

- 1) 1.7
- 2) 1.5
- 3) 2
- 4) 2.5

**Correct Answer: 1.7**