

Time Taken



00:00

Mark Gained



1. $2^{12} + 2^{12} + 2^{12} + 2^{12} = ?$

a. 4^{13}

b. 2^{14}

c. 2^{16}

d. 2^{48}

Show Answer

Show Explanation

Explanation:

Question: $2^{12} + 2^{12} + 2^{12} + 2^{12} = ?$

Solution:

$$2^{12} + 2^{12} + 2^{12} + 2^{12}$$

$$= 2^{12}(1 + 1 + 1 + 1)$$

$$= 2^{12} \times 4$$

$$= 2^{12} \times 2^2$$

$$= 2^{(12 + 2)}$$

$$= 2^{14}$$

2. In a group of buffaloes and ducks, the number of legs is 24 more than twice the number of heads. What is the number of buffaloes?

a. 12

b. 10

c. 8

d. 6

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Explanation:

Ans: 12

Solution:

Let

the number of buffaloes be x and the number of ducks are y .

Now

$$(4x + 2y) = 24 + 2(x + y)$$

$$(4x + 2y) = 24 + 2x + 2y$$

$$4x + 2y - 2x - 2y = 24$$

$$2x = 24$$

$$x = 12$$

So, here we get the number of buffaloes in the group = 12.

3. The average temperature for the first 4 days of a week is 40.2°C and that of the last 4 days is 41.3°C . If the average temperature for the whole week is 40.6°C , then the temperature on the fourth day is-

a. 38.5°C

b. 40.8°C

c. 41.8°C

d. 41.3°C

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Explanation:

Ans: 41.8°C.

Solution:

Temperature on the fourth day

$$= [(40.2 \times 4 + 41.3 \times 4) - (40.6 \times 7)]^\circ \text{C}$$

$$= 41.8^\circ \text{C}$$

4. Which number replaces the question mark?

4			
6	2		
9	3	1	
19	10	7	?

- a. 6
- b. 9
- c. 8
- d. 12

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Explanation:

Ans: 6

Here, $6 - 4 = 2$ $9 - 6 = 3, 3 - 2 = 1$ $19 - 9 = 10, 10 - 3 = 7, 7 - 1 = 6$

5. Find out the wrong number in the series: 190, 166, 145, 128, 112, 100, 91

a. 100

b. 128

c. 145

d. 112

[Show Answer](#)[Show Explanation](#)**Explanation:**

Ans: 128

190, 166, 145, 128, 112, 100, 91

এখানে,

 $190 - 166 = 24$ $166 - 145 = 21$ $145 - 128 = 17$ $128 - 112 = 16$ $112 - 100 = 12$ $100 - 91 = 9$

প্রতিটি পদের পার্থক্য 3 করে হ্রাস পাচ্ছে।

কিন্তু, $145 - 128 = 17$ $128 - 112 = 16$

এর পার্থক্য হতে দেখা যায় যে, 3 করে হ্রাস পাচ্ছে না।

128 এর স্থলে 127 হলে ক্রমটি সঠিক থাকে।

তাই, 128 এর স্থলে 127 হবে।

সিরিজের ভুল সংখ্যাটি 128

6.If a 240-metre-long metro rail passes a pole in 24 seconds, how long will it take to pass a 650-metre-long platform?

- a. 60 seconds
- b. 75 seconds
- c. 89 seconds
- d. 130 seconds

Show Answer

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Explanation:

Ans: 89 seconds

ট্রেনটির মোট দূরত্ব অতিক্রম করতে হবে = $(240 + 650)$ মিটার = 890 মিটার

ট্রেনটি 240 মিটার অতিক্রম করতে সময় নেয় = 24 সেকেন্ড

ট্রেনটি 1 মিটার অতিক্রম করতে সময় নেয় = $24/240$ সেকেন্ড

ট্রেনটি 890 মিটার অতিক্রম করতে সময় নেয় = $(24 \times 890)/240$ সেকেন্ড

= 89 সেকেন্ড

7.If the radius of a circle is increased by 100%, by what % is the area of the circle increased?

- a. 100%
- b. 200%
- c. 300%
- d. 400%

Show Answer

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Explanation:

Ans: 300%

ধরি,

বৃত্তের ব্যাসার্ধ, $r = 10$

$$\therefore \text{বৃত্তের ক্ষেত্রফল} = \pi r^2$$

$$= \pi (10)^2$$

$$= 100\pi$$

আবার,

বৃত্তের ব্যাসার্ধ 100% বৃদ্ধিতে,

বৃত্তের নতুন ব্যাসার্ধ = $10 + 10$ এর 100%

$$= 10 + 10 \text{ এর } 100/100$$

$$= 20$$

$$\therefore \text{বৃত্তের নতুন ক্ষেত্রফল} = \pi r^2$$

$$= \pi (20)^2$$

$$= 400\pi$$

$$\therefore \text{ক্ষেত্রফল বৃদ্ধি পায়} = 400\pi - 100\pi$$

$$= 300\pi$$

$$100\pi \text{ থেকে ক্ষেত্রফল বৃদ্ধি পায়} = 300\pi$$

$$1 \text{ থেকে ক্ষেত্রফল বৃদ্ধি পায়} = 300\pi/100\pi$$

$$\therefore 100 \text{ থেকে ক্ষেত্রফল বৃদ্ধি পায়} = (300\pi \times 100)/100\pi$$

$$= 300\%$$

$$\therefore \text{বৃত্তের ক্ষেত্রফল শতকরা } 300\% \text{ বৃদ্ধি পায়}$$

8.The difference between two numbers is 5 and the difference between their square is 65. What is the smaller number?

a. 4

b. 5

c. 11

d. 13

[Show Answer](#)[Show Explanation](#)**Explanation:**

Ans: 4

Let the numbers be x and y

Then,

$$x - y = 5 \dots\dots(i)$$

$$x^2 - y^2 = 65$$

$$\text{Or } (x + y)(x - y) = 105$$

$$5(x + y) = 65$$

$$x + y = 13 \dots\dots (ii)$$

by adding (i) and (ii) we get,

$$2x = 5 + 13$$

$$2x = 18$$

$$x = 9$$

From (ii) we get

$$x + y = 13$$

$$9 + y = 13$$

$$y = 13 - 9$$

$$y = 4$$

Hence, the smaller number is 4

9.If $x + y = 7$ and $x - y = 3$, then $x^2 - y^2 =$

a. - 4

b. 4

c. 10

d. 21

[Show Answer](#)[Show Explanation](#)

Explanation:

Ans: 21

$$\begin{aligned}x^2 - y^2 \\&= (x + y)(x - y) \\&= 7 \times 3 \\&= 21\end{aligned}$$

$$10.(\sqrt{7} + \sqrt{7})^2 =$$

a. 98

b. 49

c. 28

d. 21

Show Answer

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Explanation:

Ans: 28

$$(\sqrt{7} + \sqrt{7})^2 = (2\sqrt{7})^2 = 4 \times 7 = 28$$

11. Aslam bought 5 apples at taka 10 and sold 4 apples at taka 10.
What will be the rate of profit?

a. 25%

b. 20%

c. 30%

d. 33.33%

Show Answer

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Explanation:

Ans: 25%

5টি আপেলের ক্রয়মূল্য 10 টাকা

1টি আপেলের ক্রয়মূল্য $10/5$ টাকা

$$= 2 \text{ টাকা}$$

4টি আপেলের বিক্রয়মূল্য 10 টাকা

1টি আপেলের বিক্রয়মূল্য $10/4$ টাকা

$$= 2.5 \text{ টাকা}$$

$$\text{লাভ} = (2.5 - 2) \text{ টাকা} = 0.5$$

$$\text{শতকরা লাভ} = \{(0.5/2) \times 100\}\%$$

$$= 25\%$$

12.If 18 is 15% of 50% of a certain number, what is the number?

a. 360

b. 120

c. 240

d. 900

Show Answer

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Explanation:

Ans: 240

ধরি,

সংখ্যাটি x

এখানে,

$$x \text{ এর } 50\% = 50x / 100 = x / 2$$

$$x/2 \text{ এর } 15\% = x/2 \text{ এর } 15/100 = 3x/40$$

প্রশ্নমতে,

$$3x/40 = 18$$

$$x = (18 \times 40)/3 \\ = 240$$

13. The average of a family of 6 members is 25 years. After a 45 year old member leaves the family, what is the average age (in years) of the family?

a. 22

b. 21

c. 20

d. 19

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[Show Explanation](#)

Explanation:

Ans: 21

6 জন সদস্যের বয়সের গড় 25 বছর

$$6 \text{ জন সদস্যের বয়সের সমষ্টি} = (25 \times 6) \text{ বছর} \\ = 150 \text{ বছর}$$

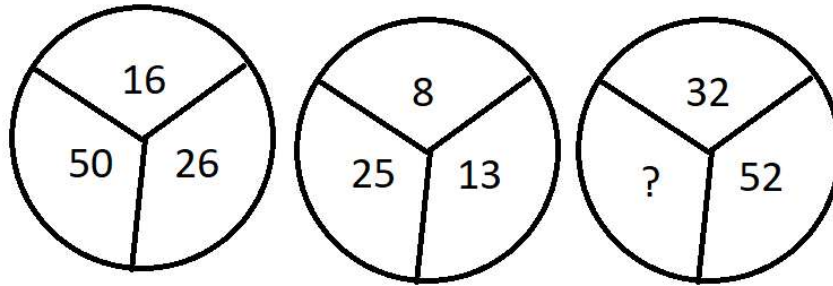
5 জন সদস্যের বয়সের সমষ্টি = (150 - 45) বছর

$$= 105 \text{ বছর}$$

5 জন সদস্যের বয়সের গড় = 105/5 বছর

$$= 21 \text{ বছর}$$

14. Find the missing number.



- a. 100
- b. 25
- c. 24
- d. 10

Show Answer

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Explanation:

Ans: 100

Solution:

In 1st figure:

$$26 - 16 = 10 \Rightarrow 10 \times 5 = 50$$

In 2nd figure:

$$13 - 8 = 5 \Rightarrow 5 \times 5 = 25$$

In 3rd figure:

$$52 - 32 = 20 \Rightarrow 20 \times 5 = 100$$

15.If the price of an item is increased by 10% and then decreased by 10% , the net effect on the price of the item is -

- a. an increase of 9%
- b. a decrease of 1%

c. an increase of 7%

d. No Change

Show Answer

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Explanation:

Ans: a decrease of 1%

Let,

The price of an item is 100 Tk.

If the price increased by 10%,

So, the new price will be after increased = $100 + \{100 \times (10/100)\}$ Tk.

= $100 + 10$ Tk.

= 110 Tk.

Then the new price decreased by 10%,

So, the new price will be after decreased = $110 - \{110 \times (10/100)\}$ Tk.

= $110 - 11$ Tk.

= 99 Tk.

\therefore The net effect on the price of the item is = $(100 - 99)$ Tk. decreased

= 1 Tk. decreased

16. Max goes to the gym every fourth day, Ellen's exercise routine is every third day. Today is Monday and both Max and Ellen are at the gym. What will the day of the week be the next time they are both at the gym?

a. Sunday

b. Wednesday

c. Friday

d. Saturday

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Explanation:

Ans: Saturday

LCM of 4 and 3 is 12. So they meet after every 12 day.

12 day after Monday is Saturday.

So, they will meet on Saturday again after the meeting on Monday.

17. Find the next number in the following pattern: 320, 160, 80, 40,...

a. 35

b. 30

c. 10

d. 20

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Explanation:

Ans: 20

320, 160, 80, 40 in this series every number is half of the preceding number.

So, the next number is 20

18. Which of the following terms does not describe the number 9?

a. Prime

b. Integer

c. Real Number

d. Whole Number

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Explanation:

Ans: Prime

9 is not a prime number but it is an integer, real and whole number.

19.If the radius of a circle is tripled, the circumference is -

- a. multiplied by 3
- b. multiplied by 6
- c. multiplied by 9
- d. multiplied by 12

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Explanation:

Ans: multiplied by 3

Circumference of circle, $C = 2\pi r$

If the radius of a circle is tripled, the circumference is multiplied by 3.

20.What is the annual interest rate on an account that earns Tk. 948 in simple interest over 36 months with an initial deposit of Tk. 7900?

- a. 40%
- b. 4%
- c. 3%
- d. 3.3%

[Show Answer](#)[Show Explanation](#)**Explanation:**

Ans: 4%

We know, $I = pnr$ Or, $r = I/pn = 948/(7900 \times 36/12)$ Or, $r = 0.04 = 4/100 = 4\%$ [About](#)[Terms & Conditions](#)[Refund Policy](#)[BPSC Link](#)[Privacy Policy](#)

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