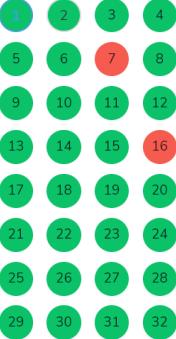


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## Question 1 [5 Marks]

A number, when divided by 6 leaves remainder 3. When the square of the same number is divided by 6, Find the remainder.

-  3
-  2
-  1
-  4

## Explanation

On dividing the given number by 6, let  $k$  be the quotient and 3 be the remainder.

Then number =  $6k + 3$

$$\text{Square of the number} = (6k+3)^2 = 36k^2 + 9 + 36k = 36k^2 + 36k + 6 + 3$$

$$= 6(6k^2 + 6k + 1) + 3. \text{ Which gives a remainder 3 when divided by 6.}$$

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Question 2 [5 Marks]

Find the remainder when  $9^6 + 7$  is divided by 8 -

-  A
-  3
-  4
-  0

Explanation

$(x^n - a^n)$  is divisible by  $(x-a)$  for all values of  $n$ .

so,  $(9^6 - 1)$  is divisible by  $(9-1)$ , ie. 8.

$\rightarrow (9^6 - 1) + 8$  is divisible by 8

$\rightarrow (9^6 + 7)$  is divisible by 8

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1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
29	30	31	32

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1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
29	30	31	32

## Question 3 [5 Marks]

How many zeros will be required to number the pages of a book containing 1000 pages?

-  A 168
-  B 184
-  C 192
-  D 216

## Explanation

The pages of the book may be divided into 10 groups.

(1-100), (101-200), (102-300) --- (901 -1000).

Clearly for the first group, one needs 20 zeros each.

For the tenth group, one needs 21 zeros.

## Question 4 [5 Marks]

How many natural numbers less than 1000 are multiples of both 10 and 13?

-  A 6
-  B 7
-  C 8
-  D 9

## Explanation

Required numbers will be multiples of 130 ( $10 * 13$ )

These numbers are 130, 260, 390, 520, 650, 780 and 910.

Count of such numbers = 7

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1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
29	30	31	32

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1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
29	30	31	32

## Question 5 [5 Marks]

The product of two whole numbers is 1500 and their HCF is 10. Find the LCM.

- A 15
- B 150
- C 1
- D None

## Explanation

$$\text{LCM} \times \text{HCF} = a \times b$$

$$\text{LCM} = 1500/10 = 150$$

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1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
29	30	31	32

## Question 6 [5 Marks]

The number of pair of positive integers whose sum is 99 and HCF is 9 is ?

- A 2
- B 3
- C 4
- D 5

## Explanation

Number of pair of positive integers, whose sum is 99 and HCF is 9 is -

(9,90)

(18,81)

(27,72)

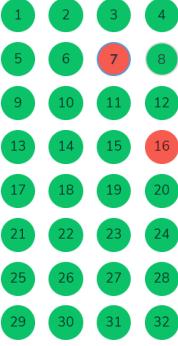
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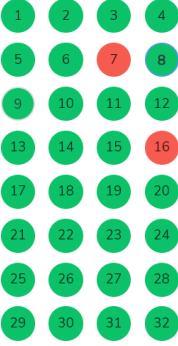
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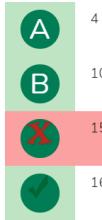
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## Question 7 [5 Marks]

Six bells commence tolling together and toll at intervals of 2,4,6,8,10 and 12 seconds respectively. In 30 minutes how many times do they toll together?



## Explanation

LCM of 2,4,6,8,10 and 12 is 120.

So, the bells will toll together after every 120 seconds.

In 30 minutes, they will toll together  $[30/2] + 1 = 16$  Times

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Question 8 [5 Marks]

The ratio of two numbers is 3:4 and their LCM is 120. The sum of two numbers is-

A	30
B	40
C	80
D	None

Explanation

Let the numbers are  $3x$  and  $4x$ .

So, HCF =  $x$

LCM \* HCF = Product of Numbers

$$x \cdot 120 = 3x \cdot 4x$$

$$x = 10$$

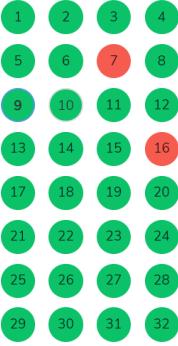
Numbers are 30,40.

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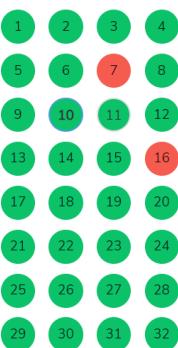
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## Question 9 [5 Marks]

Two friends A and B were employed to do work. The initial deadline was fixed at 24 days. Both started working together but after 20 days, A left the work and the whole work took 30 days to complete. In how much time can B alone do the work?

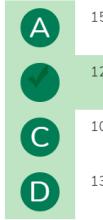
40  
50  
60  
70

## Explanation

Let the total work be 24 units. It is given that A and B together can do the work in 2 days.  
 $\Rightarrow$  Combined efficiency of A and B =  $24/24 = 1$  unit / day  
 $\Rightarrow$  Work done in 20 days = 20 units  $\Rightarrow$  Work left =  $24 - 20 = 4$  units. Now, this remaining work is done by B alone.

## Question 10 [5 Marks]

A and B took a job to be completed in 20 days. They started working together and after 12 days, C joined them and the whole job finished in 15 days. How much time would C require to complete the job if only C was hired?

15  
12  
10  
13

## Explanation

Let the total job be 20 units.  
It is given that A and B took the job to be completed in 20 days.  
 $\Rightarrow$  Combined efficiency of A and B =  $20/20 = 1$  unit / day

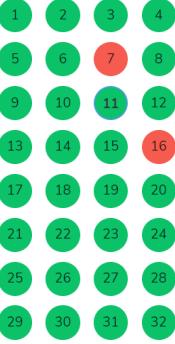
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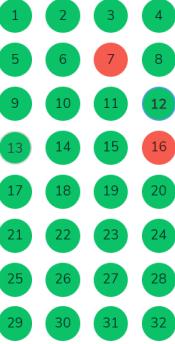
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## Question 11 [5 Marks]

If 6 men and 8 boys can do a piece of work in 10 days while 26 men and 48 boys can do the same work in 2 days, the time taken by 15 men and 20 boys in doing the same type of work will be:

- A 4
- B 5
- C 6
- D 7

## Explanation

Let the amount of work 1 man can do in 1 day be  $x$  and the amount of work 1 boy can do

Then,  $6x + 8y = 1/10$  and  $26x + 48y = 1/2$ .

Solving these two equations,

## Question 12 [5 Marks]

A can finish a work in 18 days and B can do the same work in half the time taken by A. Then Working together, what part of the same work they can finish in a day?

- A  $1/6$
- B  $1/9$
- C  $2/5$
- D  $2/7$

## Explanation

A's 1 day's work =  $1/18$

B's 1 day's work =  $1/9$

(A+B)'s 1 day's work =  $(1/18 + 1/9) = 1/6$

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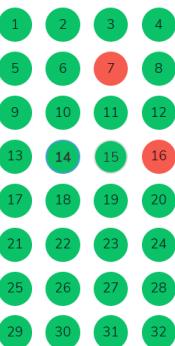
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## Question 13 [5 Marks]

A man, a woman, and a boy can do a piece of work in 6,9 and 18 days respectively. How many boys must assist one man and one woman to do the work in 1 day?

- A 5
- B 6
- C 9
- D 13

## Explanation

$$(1 \text{ Man} + 1 \text{ Woman})'s \text{ 1 day's work} = 1/6 + 1/9 = 5/18$$

$$\text{Remaining work} = (1 - 5/18) = 13/18$$

$$\text{Work done by 1 boy in 1 day} = 1/18$$

## Question 14 [5 Marks]

Two outlet pipes A and B are connected to a full tank. Pipe A alone can empty the tank in 10 minutes and pipe B alone can empty the tank in 30 minutes. If both are opened together, how much time will it take to empty the tank completely?

- A 7 minutes
- B 7 minutes 30 Seconds
- C 6 minutes
- D 6 minutes 30 seconds

## Explanation

Let the capacity of the tank be  $\text{LCM}(10, 30) = 30$  units.

$$\Rightarrow \text{Efficiency of pipe A} = 30 / 10 = 3 \text{ units / minute}$$

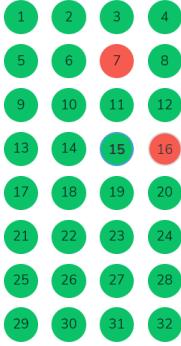
$$\Rightarrow \text{Efficiency of pipe B} = 30 / 30 = 1 \text{ units / minute}$$

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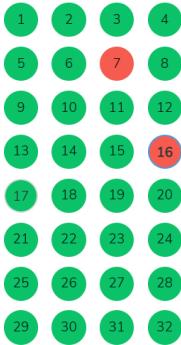
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## Question 15 [5 Marks]

Two pipes A and B attached to a swimming pool can fill the pool in 20 minutes and 30 minutes respectively working alone. Both were opened together but due to malfunctioning of the motor of pipe A, it had to be shut down after two minutes, but B continued to work till the swimming pool was filled completely. Find the total time taken to fill the pool.

- |   |    |
|---|----|
|  A | 20 |
|  B | 22 |
|  C | 25 |
|  D | 27 |

## Explanation

Let the capacity of the pool be  $\text{LCM}(20, 30) = 60$  units.  
 $\Rightarrow$  Efficiency of pipe A =  $60 / 20 = 3$  units / minute  
 $\Rightarrow$  Efficiency of pipe B =  $60 / 30 = 2$  units / minute

## Question 16 [5 Marks]

Two pipes A and B can fill a tank in 10 hours and 30 hours respectively. Due to a leak in the tank, it takes 2.5 hours more to fill the tank. How much time would the leak alone will take to empty the tank?

- |   |    |
|---|----|
|  A | 20 |
|  B | 25 |
|  C | 30 |
|  D | 35 |

## Explanation

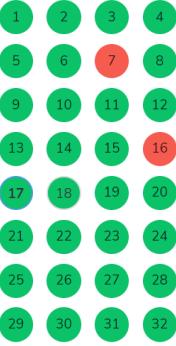
Let the capacity of the tank be  $\text{LCM} (10, 30) = 30$  units  
 $\Rightarrow$  Efficiency of pipe A =  $30 / 10 = 3$  units / hour  
 $\Rightarrow$  Efficiency of pipe B =  $30 / 30 = 1$  units / hour

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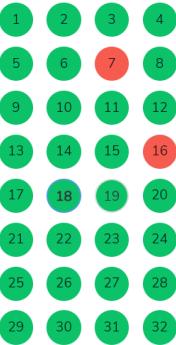
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Question 17 [5 Marks]

If John walks at a speed of 5 km/h, he reaches his office 7 minutes late. However, if he walks at a speed of 6 km/h, he reaches his office 5 minutes early. How far is his office from his home?

- A 9
- B 8
- C 10
- D 6

## Explanation

Let the distance of John's office from his home be  $x$ .

The time difference when covering the distance  $x$  at the two different speeds = 5 - (-7)

$$\Rightarrow \frac{x}{5} - \frac{x}{6} = 1/5$$

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Question 18 [5 Marks]

The ratio of the speed of two trains is 7:8. If the second train covers 400 km in 4 h, find out the speed of the first train.

- A 69.4 km/h
- B 78.6 km/h
- C 87.5 km/h
- D 40.5 km/h

## Explanation

Let the speed of the two trains be  $7x$  and  $8x$ .

$$\text{Then, } 8x = 400 / 4$$

$$\Rightarrow 8x = 100 \Rightarrow x = 12.5 \text{ km/h.}$$

Hence, speed of the first train =  $7x = 7 \times 12.5 = 87.5 \text{ km/h.}$

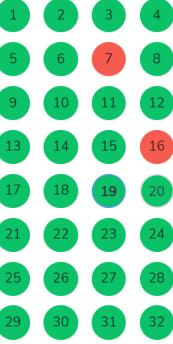
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## Question 19 [5 Marks]

Max completes his journey at an average speed of 9 km/h. He covers the first 9 km at a speed of 6 km/h and he takes 1.5 hours to cover the remaining distance. Find out the speed at which he covered the remaining distance.

- |   |    |
|---|----|
|  A | 11 |
|  B | 12 |
|  C | 13 |
|  D | 15 |

## Explanation

Let the required speed be  $x$  km/h.

Total time taken to finish his journey =  $(9/6 + 1.5) = 3$  hours.

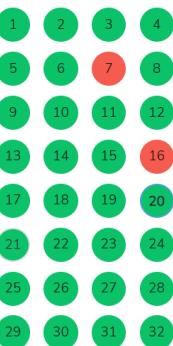
Total distance =  $9 + 1.5x$  km.

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## Question 20 [5 Marks]

Peter and Beckon start to walk in the same direction together. If Peter's speed is 5 km/h and Beckon's speed is 6 km/h, find out the time duration after which they are 17 km apart.

- |   |    |
|---|----|
|  A | 17 |
|  B | 15 |
|  C | 19 |
|  D | 20 |

## Explanation

In 1 hour Peter covers 5 km and Beckon covers 6 km. So, they are 1 km apart after 1 hour. Therefore, they are 17 km apart after 17 hours.

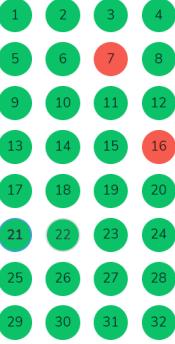
Your submitted response was correct.

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Question 21 [5 Marks]

A speedboat runs 6 km upstream in a river and comes back to the starting point in 33 minutes. The stream of the river is running at 2 km/hr. What is the speed of speedboat in still water?

- |   |    |
|---|----|
|  A | 25 |
|  B | 21 |
|  C | 26 |
|  D | 22 |

**Explanation**

Let the speed of speedboat in still water be  $x$  km/h.

Then, speed downstream =  $(x + 2)$  km/h,

speed upstream =  $(x - 2)$  km/h.

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Question 22 [5 Marks]

A train crosses a pole in 10 sec. If the length of the train is 100 meters, what is the speed of the train in Kmph?

- |   |    |
|---|----|
|  A | 10 |
|  B | 36 |
|  C | 18 |
|  D | 32 |

**Explanation**

Speed of train =  $100/10 = 10$  m/s

Speed in Km/hr =  $(10*18)/5 = 36$  Km/hr.

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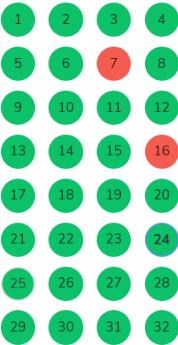
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## Question 23 [5 Marks]

The price of sugar is decreased by 10%. As a consequence, monthly sales is increased by 30%. Find out the percentage increase in monthly revenue.

-  17 %
-  B 19 %
-  C 18 %
-  D 20 %

## Explanation

Let the price of sugar be Rs 100 and monthly sales be 100 units.

Then, total revenue =  $100 \times 100 = \text{Rs } 10000$ .

And, new revenue =  $90 \times 130 = \text{Rs } 11700$ .

## Question 24 [5 Marks]

Felix spends 66.66% of his salary and saves Rs 1200 every month. Calculate his monthly expenditure in Rupees.

-  A 1200
-  B 2400
-  C 3600
-  D None

## Explanation

Let Felix's monthly salary be Rs x.

Then,  $(100 - 66.66)\% \text{ of } x = \text{Rs } 1200$

$$\Rightarrow 33.33 \% \text{ of } x = \text{Rs } 1200$$

$$\Rightarrow x/3 = \text{Rs } 1200$$

$$\Rightarrow x = \text{Rs } 3600.$$

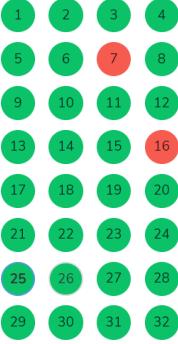
Therefore, his monthly expenditure =  $3600 - 1200 = \text{Rs } 2400$ .

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## Question 25 [5 Marks]

Jack consumes 75% of his salary. Later his salary is increased by 20% and he increases his expenditures by 10%. Find the percentage increase in his savings.

- A 55
- B 50
- C 60
- D None

## Explanation

Let Jack's original salary be Rs 100.

Then, his expenditure = Rs 75,

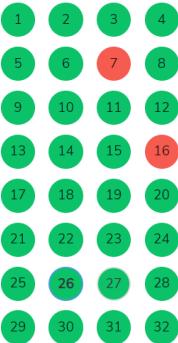
his savings = Rs 25.

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## Question 26 [5 Marks]

There are two types of sugar. One is priced at Rs 62 per kg and the other is priced at Rs 72 per kg. If the two types are mixed together, the price of new mixture will be Rs 64.50 per kg. Find the ratio of the two types of sugar in this new mixture.

- A 2 : 5
- B 3 : 1
- C 6 : 7
- D 3 : 2

## Explanation

Cost Price of 1kg of Type 1 sugar = 6200 p.

Cost Price of 1kg of Type 2 sugar = 7200 p.

Mean Price of 1 kg of mixture = 6450 p.

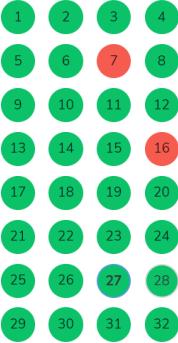
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## Question 27 [5 Marks]

A certain quantity of water is mixed with milk priced at Rs 12 per litre. The price of mixture is Rs 8 per litre. Find out the ratio of water and milk in the new mixture.

- A 3 : 2
- B 1 : 2
- C 5 : 2
- D 2 : 1

## Explanation

Cost Price of 1 litre of water = Rs 0.

Cost Price of 1 litre of milk = Rs 12.

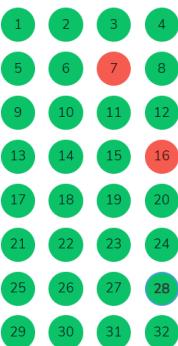
Mean Price of Mixture = Rs 8.

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## Question 28 [5 Marks]

A sikanji vendor has two drums of sikanji. The first contains 75% of sikanji. The second contains 50% sikanji. How much sikanji should he mix from first of the drum so as to get twelve litres of sikanji such that the ratio of sikanji to soda is 5 : 3?

- A 8
- B 6
- C 10
- D 9

## Explanation

Let  $x$  liters from 1st drum and  $12-x$  litrs from 2nd drum are mixed.

sikanji from 1st drum =  $.75x$

soda from 1st drum =  $.25x$

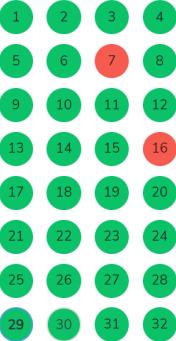
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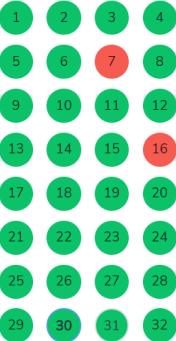
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Question 29 [5 Marks]

A vessel full of orange juice contains 40% orange pulp. A part of juice is replaced by another juice containing 19% orange pulp and now the percentage of orange pulp is found to be 26%. What quantity of juice is replaced?

- A 1/3
- B 1/2
- C 2/3
- D 3/4

**Explanation**

Concentration of orange pulp in 1st vessel = 40%

Concentration of orange pulp in 2nd vessel = 19%

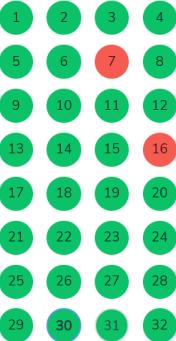
After the mixing, Concentration of orange pulp in the mixture = 26%

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Question 30 [5 Marks]

A is 5 years older than B who is thrice as old as C. If the total of ages of A, B and C is 40, then how old is C?

- A 6
- B 7
- C 5
- D 8

**Explanation**

Let C's age be  $x$  years then B's age be  $3x$

years and A's age be  $(3x+5)$  years

Therefore  $x + 3x + (3x + 5) = 40$

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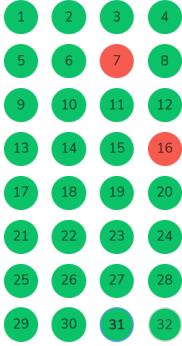
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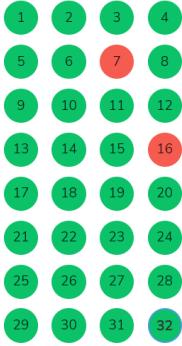
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## Question 31 [5 Marks]

Present age of Vinod and Ashok are in ratio of 3:4 respectively. After 5 years, the ratio of their ages becomes 7:9 respectively. What is Ashok's present age is ?

-  40
-  28
-  32
-  36

## Explanation

Let the present age of Vinod and Ashok be  $3x$  years and  $4x$  years respectively.

$$\text{Then } (3x+5) / (4x+5) = 7 / 9$$

## Question 32 [5 Marks]

A is as older than B as he is younger than C.If the sum of ages of B and C is 68 years. What is the present age of A?

-  24
-  34
-  28
-  32

## Explanation

$$A - B = C - A$$

$$\therefore 2A = B + C$$

And also given that  $B + C = 68$

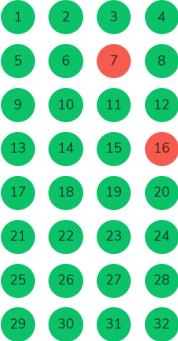
$$\therefore 2A = 68$$

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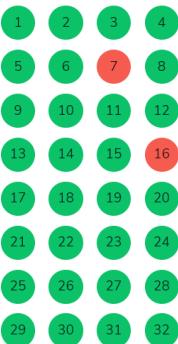
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## Question 33 [5 Marks]

Sam purchases a book at Rs 490 and sells it at Rs 465.50. What is the percentage of his loss?

-  A
-  B
-  C
-  D

6

10

5

4

## Explanation

CP of the book = Rs 490.00.

SP of the book = Rs 465.50.

Loss = Rs  $(490.00 - 465.50) = \text{Rs } 24.50$ . Hence,

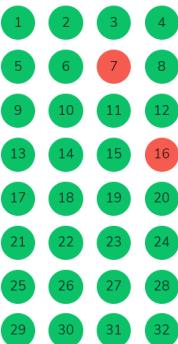
Hence, the required percentage =  $(24.50/490 \times 100)\% = 5\%$ .

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## Question 34 [5 Marks]

A bookseller gains a profit of 10% after selling a book at the price of Rs 27.50. If it is sold at the price of Rs 25.75, find out the percentage of loss or profit on the book.

-  Profit 3%
-  Loss 4%
-  Profit 5%
-  None

Profit 3%

Loss 4%

Profit 5%

None

## Explanation

SP of the book = Rs 27.50 and

he gains 10% profit on it.

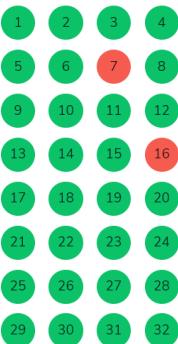
So, CP of the book = Rs  $(100/110 \times 27.50) = \text{Rs } 25$ .

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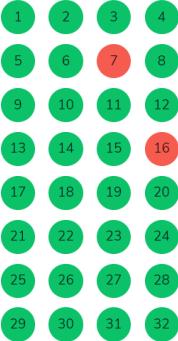
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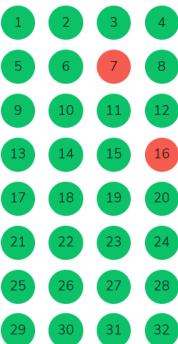
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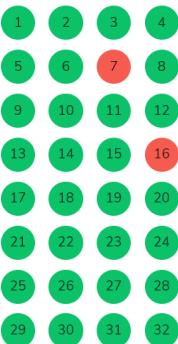
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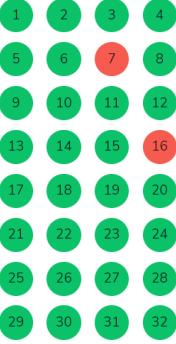


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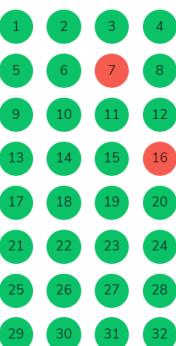
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## Question 35 [5 Marks]

A product is sold at two consecutive discounts of 30% and subsequently 40%. If the product is sold for 1500, what is the marked price on the product?

- |   |      |
|---|------|
|  A | 3635 |
|  B | 3545 |
|  C | 3571 |
|  D | 3560 |

## Explanation

Let MP is the marked price  
 $\Rightarrow (70.MP/100) * (60/100) = 1500$   
 $\Rightarrow 0.7 * 0.6 MP = 1500$

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## Question 36 [5 Marks]

A fruit seller sells all his bananas at the cost price but gives 15% less bananas for profit. Find his profit percentage?

- |   |       |
|---|-------|
|  A | 17.64 |
|  B | 15.60 |
|  C | 15.64 |
|  D | 16.60 |

## Explanation

let 100 bananas are there.  
 Bananas left = 15% = 15 bananas  
 So, bananas sold =  $100 - 15 = 85$   
 On 85 bananas sold.

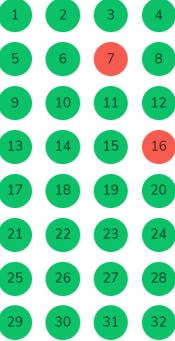
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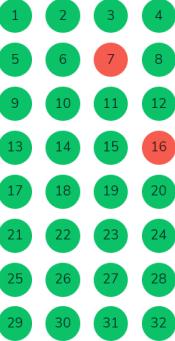
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## Question 37 [5 Marks]

A retailer buys 40 pens at the marked price of 36 pens from a wholesaler. If he sells these pens giving a discount of 1%. What is the profit percentage?

-  10
-  9.6
-  8
-  8.6

## Explanation

Let the marked price of each pen be 1 Rs.

Then Cost Price of 40 Pens = 36 Rs.

Selling Price = 99% (40) = 39.60

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## Question 38 [5 Marks]

Ram invests Rs. 10,000 for 1 year at a rate of 10% per annum compounded yearly and Sita invests the same amount for same time at same rate per annum compounded half yearly. What is the difference between the interests earned by both?

-  25.50
-  20.50
-  25
-  23.75

## Explanation

For Ram:

$$\text{Amount} = 10000 \cdot [1 + 10/100]^1 = \text{Rs.}10000 \times 11/10 = \text{Rs.}11000$$

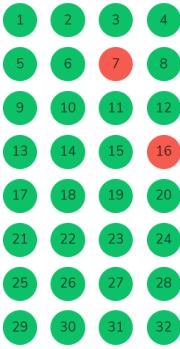
For Sita:

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## Question 39 [5 Marks]

Ram has a sum of Rs.8000. He lends it for 20% per annum at compound interest. In how much time the sum of the amount will be Rs.13824?

- A 2
- B 2.5
- C 3.5
- D 3

## Explanation

$$\begin{aligned} 3824 &= 8000 \times (1 + 20/100)^n \\ 13824/8000 &= (120/100)^n \\ (24/20)^3 &= (12/10)^n \\ (12/10)^3 &= (12/10)^n \\ \Rightarrow n &= 3 \text{ years} \end{aligned}$$

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## Question 40 [5 Marks]

How many natural numbers between 200 to 500 are multiples of 3?

- A 99
- B 101
- C 100
- D None

## Explanation

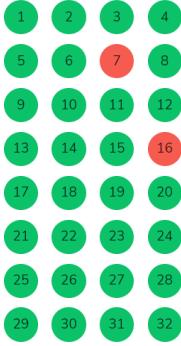
The series has multiple starting from 201, 204, .....498  
It becomes an AP having first term 210 and common difference 3.  
Total number of natural numbers = [(last term - first term)/diff] + 1  
= [498 - 201]/3 + 1

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## Question 41 [5 Marks]

Find the sum of the series 64, 32, 16, 8, 4, ... upto infinity.

- A 132
- B 136
- C 140
- D None

## Explanation

First term,  $a = 64$ Common ratio,  $r = 32 / 64 = 0.5$ We know that for an infinite GP, Sum of terms =  $a / (1 - r)$  $\Rightarrow \text{Sum of terms of the GP} = 64 / (1 - 0.5) = 64 / 0.5 = 128$ 

## Question 42 [5 Marks]

The average of 7 consecutive number is P. If the next three numbers are also added, the average shall:

- A Remain unchanged
- B Increase by 1
- C Increase by 2
- D Increase by 1.5

## Explanation

We are given  $P = [(a-3)+(a-2)+(a-1)+a+(a+1)+(a+2)+(a+3)]/7$ 

assuming that the middle number is a.

Then,  $P = 7a/7 = a$ .

If we add. the next three integers

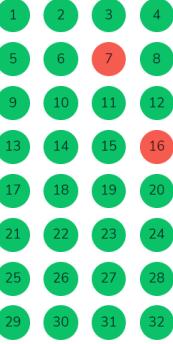
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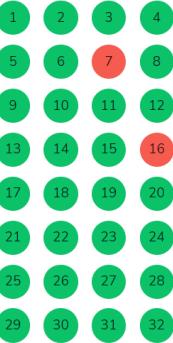
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## Question 43 [5 Marks]

What is the number of possible words that can be made using the word "EASYQUIZ" such that the vowels always come together?

-  A 720
-  B 2880
-  C 4320
-  D None

## Explanation

The word "EASYQUIZ" has 8 letters in which "EAUI" are vowels.

Since vowels always come together,

we can assume "EAUI" as a single unit letter.

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## Question 44 [5 Marks]

In how many ways can an interview panel of 3 members be formed from 3 engineers, 2 psychologists and 3 managers if at least 1 engineer must be included?

-  A 30
-  B 45
-  C 46
-  D None

## Explanation

The interview panel of 3 members can be formed in 3 ways by selecting 1 engineer and 2 other professionals, 2 engineers and 1 other professional and all 3 engineers.

- 1 engineer out of 3 engineers and 2 other professionals out of 5 professionals can be selected as  $= 3C1 * 5C2 = 3 * 10 = 30$  ways.
- 2 engineers out of 3 engineers and 1 other professional out of 5 professionals can be selected as  $= 3C2 * 5C1 = 3 * 5 = 15$  ways.

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1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
29	30	31	32

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1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
29	30	31	32

## Question 45 [5 Marks]

How many 4-digit numbers can be formed from the digits 1, 2, 3, 4, 5, 6 and 7 which are divisible by 5 when none of the digits are repeated?

-  120
-  600
-  720
-  None

## Explanation

A number is divisible by 5 if and only if its last digit is either 5 or 0.

But, 0 is not available here.

So, we have to fix 5 as the last digit of a 4-digit number and fill 3 places with remaining digits.

## Question 46 [5 Marks]

There are 5 floating stones on a river. A man wants to cross the river. He can move either 1 or 2 steps at a time. Find the number of ways in which he can cross the river?

-  12
-  13
-  14
-  15

## Explanation

The man needs to take 6 steps to cross the river. He can do this in the following ways:

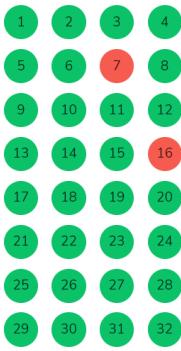
- Crossing the river by 6 unit steps = 1 way.
- Crossing the river by 4 unit steps and 1 double step =  $5C1 = 5C4 = 5$  ways.
- Crossing the river by 2 unit steps and 2 double steps =  $4C2 = 6$  ways.
- Crossing the river by 3 double steps = 1 way.

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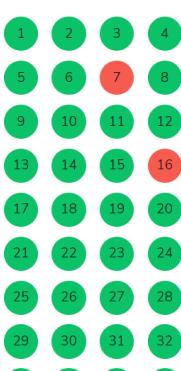
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## Question 47 [5 Marks]

Aishwarya studies either computer science or mathematics everyday. If she studies computer science on a day, then the probability that she studies mathematics the next day is 0.6. If she studies mathematics on a day, then the probability that she studies computer science the next day is 0.4. Given that Aishwarya studies computer science on Monday, what is the probability that she studies computer science on Wednesday?

- A 0.24
- B 0.16
- C 0.36
- D 0.40

## Explanation

Aishwarya studies computer science on Monday --> The probability that she studies mathematics on Tuesday is 0.6 and the probability that she studies computer science on Tuesday is 0.4 --> She studies mathematics on Tuesday and computer science on Wednesday =  $0.6 \times 0.4 = 0.24$  She studies computer science on Tuesday and computer science on Wednesday =  $0.4 \times 0.4 = 0.16$ . Adding

## Question 48 [5 Marks]

The probability that a given positive integer lying between 1 and 100 (both inclusive) is NOT divisible by 2, 3 or 5 is \_\_\_\_\_.

- A 0.259
- B 0.459
- C 0.325
- D 0.225

## Explanation

There are total of 100 numbers, out of which

50 numbers are divisible by 2,

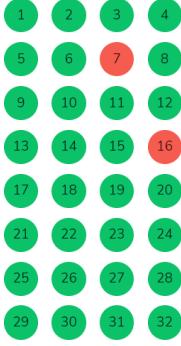
33 numbers are divisible by 3.

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## Question 49 [5 Marks]

Given Set A = {2, 3, 4, 5} and Set B = {11, 12, 13, 14, 15}, two numbers are randomly selected, one from each set. What is the probability that the sum of the two numbers equals 16?

- A. 0.20
- B. 0.18
- C. 0.25
- D. 0.33

## Explanation

There are 20 possible pairs from {2, 3, 4, 5} and {11, 12, 13, 14, 15}

i.e  $5 \times 4 = 20$  Out of which following pairs have sum 16.

(2, 14)

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## Question 50 [5 Marks]

A class of 30 students occupies a classroom containing 5 rows of seats, with 8 seats in each row. If the students seat themselves at random, the probability that the sixth seat in the fifth row will be empty is-

- A.  $\frac{1}{3}$
- B.  $\frac{1}{4}$
- C.  $\frac{1}{2}$
- D. None

## Explanation

There are 5 rows with 8 seats in each row. So, there are total 40 seats. If the sixth seat in the fifth row is empty then 30 students have 39 choices of seats

So, ways to choose from given choices =  $39C30$

But, total ways to choose =  $40C30$

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