

Write down the next two numbers in the sequence

$$5, 6\frac{1}{2}, 8, 9\frac{1}{2}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}$$

- ☐ 10, 11 $\frac{1}{2}$
- ☐ 11, 12 $\frac{1}{2}$
- ☐ 12, 13 $\frac{1}{2}$
- ☐ None

In this sequence each number is double the previous number. Write the missing numbers:

$$\underline{\hspace{1cm}} \quad \underline{\hspace{1cm}} \quad 3 \quad 6 \quad 12 \quad 24 \quad 48$$

- ☐ $\frac{3}{4}, \frac{3}{2}$
- ☐ $\frac{1}{4}, \frac{3}{2}$
- ☐ $\frac{3}{4}, \frac{1}{4}$
- ☐ $\frac{3}{2}, \frac{2}{3}$

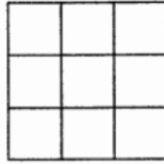
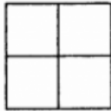
Write down the next two numbers in the sequence

$$\frac{1}{3}, 1, 3, 9, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}$$

- ☐ 12, 27
- ☐ 27, 81
- ☐ 18, 27
- ☐ 27, 54

Check the below figure and answer

The second pattern has four small squares and is made from six lines.
How many lines are needed to draw 64 small squares?



- ☐ 21
- ☐ 15
- ☐ 12
- ☐ 18

In the sequence 1,3,4,7,11..... each number after the second is the sum of the two previous numbers of the sequence. What is the 10th number of the sequence?

- ☐ 76
- ☐ 123
- ☐ 75
- ☐ 122

A rule for the number sequence is 'multiply by 2 and subtract 7'.
Write down the next number in the sequence 8,9,11,15,___

- ☐ 18
- ☐ 21
- ☐ 23
- ☐ 27

Fill the gaps in the sequence 24, __, 6, 3, __,

- ☐ 12, 1.5
- ☐ 10, 1
- ☐ 13, 2.5
- ☐ 14, 1.5

Fill the gaps in the sequence 2.8, __, __, 5.2, __,

- ☐ 2.6, 3.4, 5

- ☐ 3.5, 4.5, 6
- ☐ 3.6, 4.4, 6
- ☐ 3.7, 4.8, 7

The number of insects in a colony doubles each week. If there were 100 insects in the colony at the start of the first week, how many would be there after 6 weeks

- ☐ 1200
- ☐ 2400
- ☐ 4400
- ☐ 6400

The number of insects in a colony doubles each week. If there were 100 insects in the colony at the start of the first week, After how many weeks would there first be more than 100000?

- ☐ 9
- ☐ 10
- ☐ 11
- ☐ 12

The number of leaf cutter ants doubles every day for the first week. If there were 10 at the end of the first day, how many are there at the end of second day?

- ☐ 12
- ☐ 15
- ☐ 20
- ☐ 25

The number of leaf cutter ants doubles every day for the first week. If there were 10 at the end of the first day, how many are there at the end of the week?

- ☐ 120
- ☐ 240
- ☐ 640

☐ 440

Write down the next two numbers in the sequence

2,8,32,128,____,____

☐ 256, 512

☐ 512, 1024

☐ 512, 2048

☐ 256,1024

On a Autumn day the number of leaves on a tree at the end of the day is half the number at the start of the day. A tree initially has 400,000 leaves. How many are left at the end of the second day?

☐ 50,000

☐ 10,000

☐ 200,000

☐ 100,000

On a Autumn day the number of leaves on a tree at the end of the day is half the number at the start of the day. A tree initially has 400,000 leaves. At the end of which day are there less than 2000 leaves?

☐ 6

☐ 7

☐ 9

☐ 8

A sequence of numbers is formed by always adding the same number to get the next number in the sequence. The 10th number in the sequence is 23 and the 15th number is 38. What is the 12th number?

☐ 27

☐ 28

☐ 29

☐ 30

Each number in a sequence is calculated by multiplying the previous number by 100 then adding 1. If the first number in the sequence is 0, what is the fourth number?

- ☐ 101
- ☐ 1001
- ☐ 10101
- ☐ 102

Each number in a sequence is calculated by multiplying the previous number by 100 then adding 1. If the second number in the sequence is 51, what is the first number?

- ☐ 51
- ☐ 0.5
- ☐ 50
- ☐ 1

To encourage her to tidy her bedroom, Akshara is given 1p on the first day, 2p on the second day, 4p on the third day and so on, doubling the amount each day. How much has she been given after 8 days?

- ☐ 256
- ☐ 255
- ☐ 128
- ☐ 512

Write down the next number in the sequence

1,1,2,3,5,8,___

- ☐ 13
- ☐ 12
- ☐ 11
- ☐ 10

Farmer Neil has two legs and each of his cows have four legs. In the picture below, there are six legs in total. Fill in the table below

for the total number of legs if the Neil is always present, but the number of cows increases

- ☐ 10, 19, 41, 401
- ☐ 10, 21, 42, 401
- ☐ 10, 18, 42, 402
- ☐ 10, 18, 42, 401

Farmer Neil has two legs and each of his cows have four legs. In the picture below, there are six legs in total. After filling table below for the total number of legs if the Neil is always present, but the number of cows increases. Mithu is trying to find a formula that links the number of cows, C to the number of legs, L. What is $L = __$ and $C = __$?

- ☐ 2,6
- ☐ 2,4
- ☐ 4,2
- ☐ 4,6

We write $S(2,5)$ as an abbreviation for $2+3+4+5$ so that $S(2,5)=14$.

Similarly $S(6,39)=6+7+8+9+....+38+39=765$. Work out $S(6,40)$

- ☐ 820
- ☐ 815
- ☐ 805
- ☐ 825

If it takes 90 mins for two identical towels to dry on a washing line, how long would three of these towels have taken to dry?

- ☐ 135 mins
- ☐ 145 mins
- ☐ 125 mins
- ☐ 90 mins

In winter, i try to climb up an icy slope starting at the bottom. Each time i make a move i find that i go up four metres but then slide back down two metres. How many moves do i need to get to the top which is 8 metres up the slope from the bottom?

- ☐ 2 moves
- ☐ 4 moves
- ☐ 1 move
- ☐ 3 moves

Here is a sequence of shapes made with grey and white tiles. How many grey tiles will be there in shape number 20?

- ☐ 22
- ☐ 21
- ☐ 23
- ☐ 19

Here is a sequence of shapes made with grey and white tiles. How many white tiles will be there in shape number 36?

- ☐ 36
- ☐ 70
- ☐ 72
- ☐ 20

Here is a sequence of shapes made with grey and white tiles. How many tiles will be all together in shape number 25?

- ☐ 36
- ☐ 70
- ☐ 77
- ☐ 20

A sequence starts 4,16,..... each term is 4 times the term before. Write down the next two number in the sequence

- ☐ 32,64
- ☐ 64,128
- ☐ 256,1024
- ☐ 64,256

A sequence starts 4,16,..... each term is 4 times the term before.Which if the following could not be numbers in this sequence (more than one answers)

- ☐ 23468
- ☐ 12986
- ☐ 23232
- ☐ 65536

☐ 98340

Solve the below

- ☐ 11
- ☐ 13
- ☐ 39
- ☐ 49
- ☐ 59

Shrishh is making a sequence of numbers. The first number is 1 and the third is 9. He gets his sequence by multiplying the previous value by the same number each time. Write in the three missing numbers in the sequence shown. 1, __, 9, __, __

- ☐ 2, 28, 80
- ☐ 3, 27, 81
- ☐ 3, 81, 213
- ☐ 3, 27, 83

Ibraheem starts with 1000 and subtracts 11 each time. The first four numbers in his sequence are: 1000, 989, 978, 967. If he continues in this way, what will be the first negative number in his sequence?

- ☐ -2
- ☐ -1
- ☐ -3
- ☐ -4

Write down the next number in the sequence 83, 76, 69, 62, __

- ☐ 54

- ☐ 55
- ☐ 56
- ☐ 53

Cans are often stacked like this in a supermarket display. How many rows would be needed to display 28 cans?

- ☐ 6
- ☐ 7
- ☐ 8
- ☐ 9

Here is a pattern of numbers

- ☐ 19
- ☐ 18
- ☐ 20
- ☐ 17

The first term of a sequence is 50, the second is 4 and the third is 42, and so on. How many terms are there until the first negative

term?

- ☐ 13
- ☐ 12
- ☐ 11
- ☐ 10

A palindromic number is a number that can be read the same forwards and backwards, eg., 33 and 797. How many of such numbers are there between 10 and 1000?

- ☐ 100
- ☐ 99
- ☐ 98
- ☐ 97

Mark starts from 3 and counts up in fours, so he says 3,7,11.... and so on. Advik starts from 6 and counts up in sevens. What is the smallest number that both boys say?

- ☐ 23
- ☐ 27
- ☐ 34
- ☐ 31

The number of stinging nettle plants in Krish's rose patch doubles each year. In 2016 there are 8 stinging nettle plants. In which year will the number of stinging nettle plants first be more than 1000?

- ☐ 2021
- ☐ 2022
- ☐ 2023
- ☐ 2024

Write down the missing number in the sequence

2.3, 3.4, 4.7, 6.2, _____, 9.8

- ☐ 7.8
- ☐ 7.9

☐ 8.8

☐ 8.9

Write down the missing number in the sequence

15,21,27,33,39 ,____

☐ 44

☐ 45

☐ 46

☐ 47

find the 30th term in the sequence

6,10,14,18 ,____

☐ 121

☐ 122

☐ 123

☐ 124

Lucky's plant doubles its height every day. It is 4 cm tall on monday. On what day does it become taller than two metres

☐ saturday

☐ sunday

☐ monday

☐ tuesday

Akshara wrote down a sequence of numbers. Her first number is 160000 and then I divide by 4 to get the next number each time. What is the 5th number in her sequence

☐ 2500

☐ 625

☐ 1000

☐ 10000

In the sequence which begins 2,3,5,10.. each number after the second is the sum of the previous numbers in the sequence. What is the 10th number in the sequence?

- ☐ 47
- ☐ 170
- ☐ 640
- ☐ 1280

The first two terms of a sequence are 1, 2. Each term after is the sum of all the previous terms in the sequence. Which of these is not part of the sequence

- ☐ 3
- ☐ 6
- ☐ 24
- ☐ 50
- ☐ 96

what are the next two numbers of the sequence 243, -81, 27, -9,

____, ____

- ☐ 6, -1
- ☐ -1, 1
- ☐ 3, -1
- ☐ 6, -3
- ☐ -2, 1

Shrishh is making pattern with matches. How many more matches will he need to make pattern 4

- ☐ 12
- ☐ 4
- ☐ 10
- ☐ 11

Shrishh is making pattern with matches. How many matches altogether will he need to make pattern 5

- ☐ 15
- ☐ 20
- ☐ 10
- ☐ 25

Shrishh is making pattern with matches. He has box of 99 matches, what is the largest pattern number he can make?

- ☐ 15
- ☐ 24
- ☐ 10
- ☐ 25

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