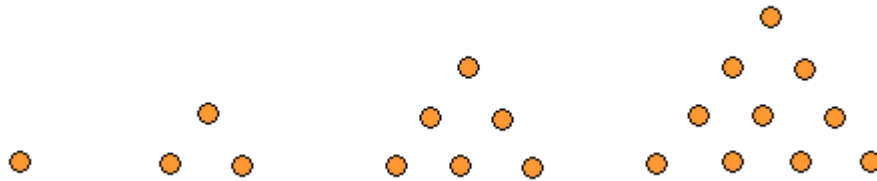


General Instructions:

- Submit your work in a file/folder with a cover page. Present your work neatly.
- The work should be hand written.
- Solve the questions in the worksheet itself, in space provided for each question. Use the perforated sheets if required.
- Manage your work in such a way that a little work is done every day to avoid piling it for the last moment.

Triangle Numbers

Triangular numbers are numbers that represent the shapes that you see below.

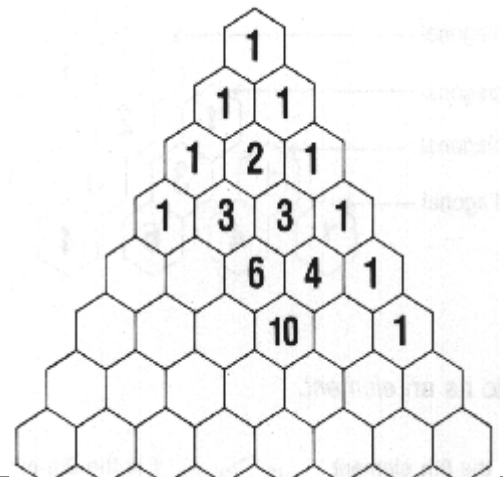


Find the next two triangle numbers by drawing the dots. Can you find the following 4 without drawing the dots? Look for a pattern.

Pascal's Triangle

One of the most interesting Number Patterns is Pascal's Triangle (named after Blaise Pascal, a famous French Mathematician and Philosopher).

1. Look for the pattern.
2. Fill in the missing numbers in Pascal's Triangle
3. Color the odd and even numbers with two distinct colors.
4. There are many patterns in this triangle. Can you spot at least three?



Fibonacci Series



In the 12th century, Leonardo Fibonacci discovered a simple numerical sequence that is the foundation for an incredible mathematical relationship behind phi. The Fibonacci sequence is the series of numbers:

0, 1, 1, 2, 3, 5, 8, 13, 21, 34, ...

The next number is found by adding up the two numbers before it.

- The 2 is found by adding the two numbers before it ($1+1$)
- Similarly, the 3 is found by adding the two numbers before it ($1+2$),
- And the 5 is ($2+3$),
- and so on!

Example: the next number in the sequence above would be $21+34 = 55$

It is that simple!

Can you find the next 10 numbers of this famous Fibonacci series? (Work in the space given below)

Kaprekar's Constant

Take any four digit number (whose digits are not all identical), and do the following:

1. Rearrange the string of digits to form the largest and smallest 4-digit numbers possible.
2. Take these two numbers and subtract the smaller number from the larger.
3. Use the number you obtain and repeat the above process.

What happens if you repeat the above process over and over? Let's see...

Suppose we choose the number 3141.

$$4311-1134=3177.$$

$$7731-1377=6354.$$

$$6543-3456=3087.$$

$$8730-0378=8352.$$

$$8532-2358=6174.$$

$$7641-1467=6174...$$

The process eventually hits 6174 and then stays there!

But the more amazing thing is this: every four digit number whose digits are not all the same will eventually hit 6174, in at most 7 steps, and then stay there!

Try to reach the Kaprekar's Constant for a 4-digit number of your choice. 😊 Show your working below.

Let's get ready to solve the mystery..... Wear your detective hats and using the hints given below find the mystery number

- 1) a) 6 in the ten thousand place .
 b) 0 in the ones place .
 c) 4 in the lakh place .
 d) 9 in the hundreds place.
 e) 1 in thousands place .
 f) 3 in tens place .

The mystery number is _____

- 2) a) 7 in the crore place.
 b) 5 in the ones place .
 c) 2 in the lakh place.
 d) 0 in ten thousand place.
 e) 8 in the tens place .
 f) 0 in the hundreds place.
 g) 4 in thousands place .

The mystery number is _____

- 3) a) The number has 7 in tens place .
 b) The number in the ones place is four more than 5 .
 c) There is 2 in the ten thousand place .
 d) The number in the hundreds place is between 7 to 9 .
 e) The number in the thousand place is 3 less 10 .

The mystery number is _____

A pizza outlet “Jain Pizza Corner” sells around 17 pizzas in an hour on weekends, if it is open from 9:00 am to 11:00 pm, and then about how many pizzas does it sell?

Its competitor “Subash Pizza Corner” gets opened at 8:00 am in the morning and closes at 11:00 pm and they receive the order of around 21 pizzas in an hour. About how many pizzas do they sell in a day? (Round your answer to nearest tens)

Who is selling more pizzas, Jain Pizza Corner or Subash Pizza Corner? What is the difference between two pizza outlet’s sales?

Arjun Saree House in Lajpat Nagar on last Diwali had a hit sale of Rs. 7,56,454, Another branch of Arjun Saree House in G.K II had a recorded sale of Rs. 5,98,750. How much did the Arjun Saree House earned during the Diwali season? (Round your answer to nearest thousands)

9088 units of water coolers were ordered from Osmosis Water Cooler factory in Okhala to be delivered to different electronic stores in Delhi, only 42 water coolers could be loaded to a truck, how many trucks are needed to deliver the complete order? (Round your answer to nearest hundreds)

Solve the following sums

$$\begin{array}{r} 53539 \\ + 47509 \\ \hline \end{array}$$

$$\begin{array}{r} 57288 \\ + 92258 \\ \hline \end{array}$$

$$\begin{array}{r} 36299 \\ + 51703 \\ \hline \end{array}$$

$$\begin{array}{r} 29786 \\ + 62023 \\ \hline \end{array}$$

$$\begin{array}{r} 37730 \\ + 67734 \\ \hline \end{array}$$

$$\begin{array}{r} 33219 \\ + 99646 \\ \hline \end{array}$$

$$\begin{array}{r} 73593 \\ + 76447 \\ \hline \end{array}$$

$$\begin{array}{r} 40676 \\ + 88986 \\ \hline \end{array}$$

$$\begin{array}{r} 37903 \\ + 57855 \\ \hline \end{array}$$

$$\begin{array}{r} 45937 \\ + 67250 \\ \hline \end{array}$$

$$\begin{array}{r} 18509 \\ + 23509 \\ \hline \end{array}$$

$$\begin{array}{r} 89055 \\ + 50155 \\ \hline \end{array}$$

$$\begin{array}{r} 25521 \\ + 67797 \\ \hline \end{array}$$

$$\begin{array}{r} 52717 \\ + 72090 \\ \hline \end{array}$$

$$\begin{array}{r} 63449 \\ + 25314 \\ \hline \end{array}$$

$$\begin{array}{r} 78763 \\ + 50663 \\ \hline \end{array}$$

$$\begin{array}{r} 87778 \\ - 49251 \\ \hline \end{array}$$

$$\begin{array}{r} 53688 \\ - 53182 \\ \hline \end{array}$$

$$\begin{array}{r} 78160 \\ - 17218 \\ \hline \end{array}$$

$$\begin{array}{r} 84944 \\ - 69822 \\ \hline \end{array}$$

$$\begin{array}{r} 60447 \\ - 13113 \\ \hline \end{array}$$

$$\begin{array}{r} 60868 \\ - 58707 \\ \hline \end{array}$$

$$\begin{array}{r} 24507 \\ - 15960 \\ \hline \end{array}$$

$$\begin{array}{r} 22868 \\ - 14885 \\ \hline \end{array}$$

Measuring activity- Remembering the fun day



Akash measured with a 20 m long rope 30 times and Sneha measured the same distance with 30m long rope. How many times does Sneha measure to cover the whole distance? What was the total distance?

Kashish measured 542 m of her school play ground's length, after having water she resumed measuring, she measured 689m more to measure the whole length of the play ground. What is the total length of the ground?

In a measuring activity one group of the class was measuring the parking area of the school which was 652m long and the other group was measuring the area of canteen of the school which was 454m long. Which place was longer and by how many meters?

Children discovered that their school boundary is 1454 m long. How much is this length in kilometers? They used ropes of 25m length how many times did they have to use it to measure the whole boundary?

Identify the pattern in the given number sequences and write it in the space provide.

Complete the number sequences with the values that should come next.

(1) 3, 3, 6, 9, 9, 12, 15, 15, 18, _____, _____, _____

Pattern:

(2) 8, 8, 8, 10, 10, 10, 12, 12, 12, _____, _____, _____

Pattern:

(3) 25, 38, 51, 64, 77, 90, 103, 116, 129, _____, _____, _____

Pattern:

(4) 17, 22, 27, 32, 37, 42, 47, 52, 57, _____, _____, _____

Pattern:

(5) 11, 11, 11, 8, 8, 8, 5, 5, 5, _____, _____, _____

Pattern:

(6) 4, 6, 8, 10, 12, 14, 16, 18, 20, _____, _____, _____

Pattern:

(7) 7, 10, 13, 16, 19, 22, 25, 28, 31, _____, _____, _____

Pattern:

Division

Solve these in the following pages.

a. $2340 \div 52$

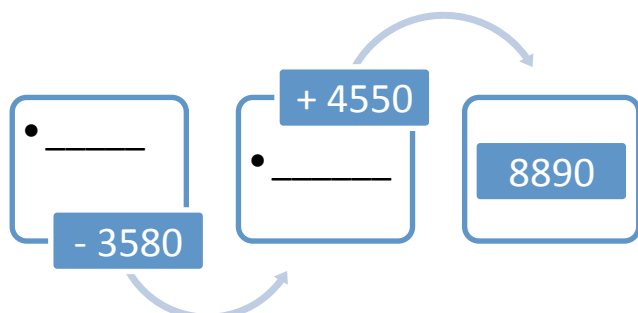
b. $8854 \div 59$

c. $9500 \div 76$

d. $4752 \div 33$

Fun with Numbers

1. Fill numbers in the empty boxes.



2. The largest 4-digit number subtracted from the smallest 6-digit number is _____.
3. The sum of the smallest 5-digit number, 6-digit number and 7-digit number is _____.
4. Subtract 176891 from the sum of the greatest 6-digit odd number and the smallest 6-digit even number.
5. Simplify : $999999+111111-100010$
6. A furniture mart buys and old sofa set at Rs 6,900. The spend Rs 1675 to repair it and put new covers on it. They sold it for Rs 10000. What is the profit or loss?
7. Manish is a bread supplier. He sells the packets of bread at Rs 11 to the shopkeeper and shopkeeper in turns sells it to his customer at Rs 15. If Manish's cost price is Rs 9 What is the profit both Mohan and shopkeeper are making per 100 bread packets?