Sadhana Education Society’s
L. S. Raheja College of Arts & Commerce
Department of Mathematics, Statistics And Computer

WOW! MATHS
CONNECTING MATHS TO EVERYDAY LIFE

Objectives
To fill the gaps in the Mathematical learning practices by:
- Concept Visualization
- Maths-Lab Activity
- Project Work
- Connecting knowledge to life outside college
- Examining logical thinking abilities
- Enriching students with a variety of mathematical resources

An innovative learning course ideal for First Year Students of B.Com.

Registration Link:
https://forms.gle/7R9cR58d36BR1mbB6
Please enroll yourselves through before 31st December, 2021

For queries, please contact:
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+91 97680 36761

With best regards,
Dr. Seema Ukidve
(H.O.D. Department of Maths, Statistics & Computer)

Dr. Debjit Sarkar
(Principal)
Can you Solve this?

IF
AT = 4
CAT = 6
CROW = 8
BRAIN = 10
Then
TWISTER = ?
There are 4 figures in the problem area. What will be the 5th figure? Select from the Answer figure area.

Problem Figure

Answer Figure

A  B  C  D
What number will come in the place of the question mark?
You all have to become Arjun!!!!!

Focus is not something you have but You Focus on your Goal

Memory is not something you have but You memorize the things

Similarly Ability in Maths is not something you have but You have to develop it consciously.
Time
Average
Centuries
Half centuries
catches
If you want to calculate how much paint, wallpaper, flooring, carpeting or tile you have to buy for your project you must know the area of the wall or floor.
Wow
maths
#1
Prof Goray
MATHS IS ALL AROUND US!

What shapes can you find?

Hexagon  Triangle  Square
Circle    Oval      Semi Circle
Rectangle
MATHEMATICS IS ALL AROUND US.

Develop mathematical ability
Today’s topic is Negative numbers
Numbers

Give some examples of numbers

Siachen

Temperature is -10
Numbers

Wow maths #1
Prof Goray
Numbers

Wow maths #1
Prof Goray

Quiz

dr and cr entries
Numbers

Integers on a Number Line

Negative Integers

Positive Integers

Origin (Zero)
Train stations is like a number line

Vileparle  Santacruz  Khar  Bandra

Integers on a Number Line

Negative Integers  Positive Integers

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

Origin (Zero)

Wow maths #1
Prof Goray
Neeta started from Santacruz, travelled +2 stations and then travelled -6 stations. Where will she be?
Following are some fun web sites to understand negative numbers

https://www.youtube.com/watch?v=DBSviXhkubg

https://www.youtube.com/watch?v=DBSviXhkubg

https://www.youtube.com/watch?v=DBSviXhkubg
You are given 5 cards having plus (+) sign and another 5 cards having minus (−) sign.

For the given sum, you have to pair them and find the answer.

+3−5=?

You are left with 2 minus sign cards, so your answer will be -2.

Find answer of:

-6 +5=  
3 -2=  
1-5=
### Addition subtraction Rules

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<thead>
<tr>
<th>Number1</th>
<th>Number2</th>
<th>Action</th>
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<td><img src="image1.png" alt="Symbol" /></td>
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Give Sign of the greater number to the answer
Addition subtraction Rules

This shows that if both the numbers are positive you add them.

This shows that if both the numbers are negative you add them.

If One positive and other negative you subtract them.

Always give Sign of the greater number to the answer
1) \(+75 + 25 = \)

2) \(+75 - 25 = \)

3) \(-75 - 25 = \)

4) \(-75 + 25 = \)
Multiplication Sign Rules

For Multiplication action will be always multiply only whatever is the sign of both the numbers.

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For eg.
+12 x (+3) = +36
-12 x (-3) = +36
+12 x (-3) = -36
-12 x (+3) = -36
1) $5 \times 6 = $

2) $-5 \times 6 = $

3) $5 \times -6 = $

4) $-5 \times -6 = $
Q1) solve the following simultaneous equations

\[2x + 3y - 66 = 0 \quad \text{and} \quad 2x + y - 38 = 0\]
Q2) solve the following simultaneous equations

\[3x - 4y + 25 = 0 \quad \text{and} \quad 8x + 4y + 19 = 0\]
Thank you
Solve if you are a genius!

8 = 56
7 = 42
6 = 30
5 = 20
3 = ?
What will come in the empty red square?
Select your answer from the option given....
What will come in the empty square? Select your answer from the option given....
What will come in the last line?

If 8+1 = 79
6+5 = 111
4+2 = 26
7+3 = ?
Today’s topic is Fractions
Revision Numbers

Siachen

Temperature is -10
Integers on a Number Line

Negative Integers

Positive Integers

Origin (Zero)
Revision Numbers
Addition subtraction Rules

Give Sign of the greater number to the answer
Revision Multiplication Sign Rules

For Multiplication action will be always multiply only whatever is the sign of both the numbers.

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FRACTION

1 full

\[ \frac{1}{6} \] gives us 1 piece from 6 pieces

\[ \frac{1}{15} \] gives us 1 piece from 15 pieces

This \[ \frac{1}{6}, \frac{1}{15} \] Are called fractions
If I take 2 pieces of chocolate from this bar how will you write that in terms of fraction?

\[ \frac{2}{15} \]
FRACTIONS

Look carefully at each fraction. Does it tell you any story?

Yes, every fraction simplifies to $\frac{1}{2}$
\[ \frac{1}{8} \text{ or } \frac{1}{12} \]

Who is bigger?

Which pizza piece is greater in size?

\[ \frac{1}{8} \text{ or } \frac{1}{12} \]
Which part is greater $\frac{1}{4}$ or $\frac{1}{8}$

This and the earlier slide shows that more the number of parts, lesser is the value of the part. In Maths we say, more the denominator lesser the fraction.
Mixed FRACTION

Mixed Number

\[2 \frac{1}{3}\]

\[\frac{7}{3}\]

\[2 \frac{3}{4}\]

\[\frac{11}{4}\]
ADDING FRACTIONS

HOW MANY PIZZA PIECES I ATE?

\[ \frac{1}{4} + \frac{1}{2} = \frac{3}{4} \]
ADDING FRACTIONS
Criss cross method

Find out
\[
\frac{1}{4} + \frac{3}{7} = \frac{22}{15}
\]
1) Nina walked \( \frac{2}{3} \) rd of km to college from her house and \( \frac{7}{8} \) th of km on the college sports ground. What is the total distance she walked?

\[
\begin{align*}
\frac{2}{3} + \frac{7}{8} &= \frac{2 \times 8 + 3 \times 7}{3 \times 8} \\
&= \frac{16 + 21}{24} \\
&= \frac{37}{24} \\
&= 1.5416
\end{align*}
\]
2) Abhay is allowed to play the video game for \(\frac{4}{5}\) hours every day. Today he has played for \(\frac{2}{3}\) hours. How much more can he play?

\[
\frac{4}{5} - \frac{2}{3} = \frac{4 \times 3}{5 \times 3} - \frac{2 \times 5}{3 \times 5} = \frac{12}{15} - \frac{10}{15} = \frac{2}{15} \text{ hours} = \frac{2}{15} \times 60 \text{ minutes} = 8 \text{ minutes}
\]
Multiplication of FRACTIONS

Solve:
1) \( \frac{2}{3} \times \frac{9}{20} \) 
2) \( \frac{1}{3} \)rd of \( \frac{7}{4} \) 
3) \( 27 \div \frac{1}{3} \)
4) \( \frac{1}{2} + (3 + 2 \times 5 - 1) \)

\begin{align*}
1) & \quad \frac{2}{3} \times \frac{9}{20} \\
& = \frac{3}{10} \\
2) & \quad \frac{1}{3} \times \frac{7}{4} \\
& = \frac{7}{12} \\
3) & \quad 27 \div \frac{1}{3} \\
& = 81 \\
4) & \quad \frac{1}{2} + (3 + 2 \times 5 - 1) \\
& = \frac{1}{2} + (3 + 10 - 1) \\
& = \frac{1}{2} + 12 \\
& = \frac{1}{2} + \frac{24}{2} \\
& = \frac{1 + 24}{2} = \frac{25}{2}
\end{align*}
5) You are punished by your college principle. So you have to clean $\frac{3}{4}$th part of the college garden. Your friend agreed to help you and cleans $\frac{1}{3}$rd part of your work. How much part is left for you to clean?

\[
\text{Part of the garden to be cleaned} = \frac{3}{4}
\]

Friend agrees to clean = $\frac{1}{3}$ of your work

\[
\therefore \text{Friend agrees to clean} = \frac{1}{3} \times \frac{3}{4} = \frac{1}{4}
\]

\[
\therefore \text{Remaining part you have to clean} = \frac{3}{4} - \frac{1}{4} = \frac{2}{4} = \frac{1}{2}
\]
6) You are in charge of college annual day. Budget sanctioned is Rs 50,000. You have spent Rs 15,000 on music system, 1/3 rd of music system on snacks, 2½ of music system on trophies. Another Rs 10,000 on T-shirts to volunteers. Are you well in budget or overshoot it?

\[
\begin{align*}
\text{Budget} &= \text{Rs. 50,000} \\
\text{Spent on music} &= \text{Rs. 15,000} \\
\text{Spent on snacks} &= \frac{1}{3} \text{ of music} \\
&= \frac{1}{3} \times 15,000 \\
&= 5,000 \\
\text{Spent on trophies} &= 2\frac{1}{2} \text{ of music} \\
&= \frac{5}{2} \times 15,000 \\
&= 37,500 \\
\text{Spent on T-shirts} &= \text{Rs. 10,000} \\
\text{Total expenses} &= \text{music + snacks + trophies + T-shirts} \\
&= 15,000 + 5,000 + 37,500 + 10,000 \\
&= 67,500 \\
\text{Sanctioned} &= \text{Rs. 50,000} \\
\therefore \text{You overshooted the budget by} &= 67,500 - 50,000 \\
&= 17,500
\end{align*}
\]
Thank you