

ENGLISH

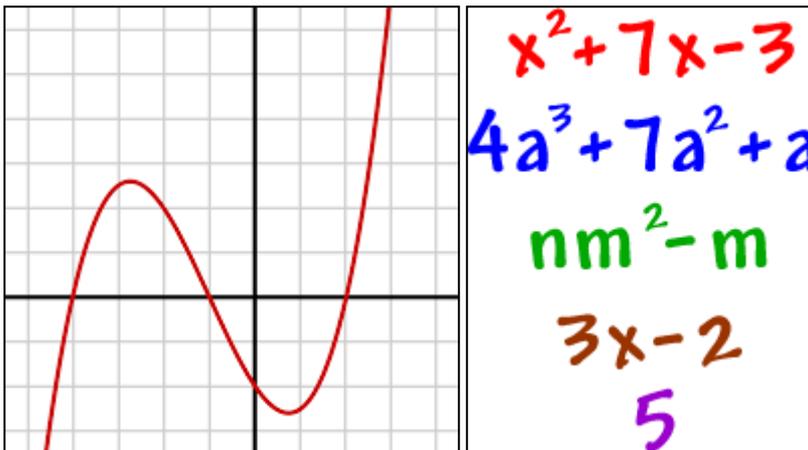
1. Long reading text, 'Diary of a Young Girl'
 - a. Read the chapter 1 to 14.
 - b. Choose 5 incidents that you like and rewrite them in your own words.
2. Make a scrapbook on William Shakespeare's Julius Caesar. Include the synopsis and character sketches of Julius Caesar, Marcus Brutus and Mark Antony. Paste relevant pictures and write famous quotes from the Play.
3. **Write in not less than 200 words about how you spent your days during your vacations and what moral lesson you learnt from any situation/incident or any family member that you would always like to remember throughout your life.**

HINDI

1 किन्हीं पाँच विषयों पर अलग-अलग विज्ञापन तैयार करो। आपको कुल पाँच विज्ञापन तैयार करने हैं।

MATHEMATICS

ASSIGNMENT NO. 1. Birthday Polynomial Project



For this project, you will create and analyze a polynomial unique to you by using your birthday. You will present this polynomial on a poster. Completing this project thoroughly will help to understand polynomials and their behaviours.

Step 1: Use the digits of your birthday day and month to create factors for a polynomial.

You must have at least three factors, so use the number 0 if you have to. For example, my birthday is August 18th, so my digits are 08/18. My factors could be

$$(x + 0)(x - 8)(x + 1)(x + 8),$$

or I could leave out one of them. Use either + or – in your factors; experiment to find a polynomial that you think is cool.

Step 2: Use multiplication to find the polynomial $p(x)$ that has your factors.

Step 3: Use long division to divide your polynomial by one of its factors.

Show your work for steps 2 and 3 on a coloured paper sheet to pasted on your poster.

Step 4: Determine the following for your polynomial:

1. Degree
2. Number of zeros
3. Sum and product of the zeros
4. Verify the relationship between the coefficients and the zeros.

Step 5: Create a poster on a chart paper to present your polynomial. Make your poster creative and attractive. Personalize it to express who you are – this is your polynomial! Include the following:

1. Your birthday and the factors that came from it
2. Polynomial
3. A paragraph (4-5 sentences) explaining all of the features found in Step 4 as well as how your polynomial came from your birthday

ASSGIGNMENT NO. 2. THE GOLDEN RATIO

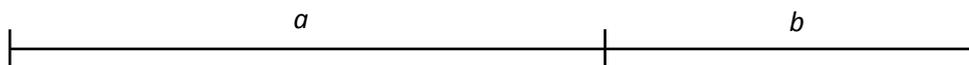
SYMBOL : Phi



One of the most famous and mysterious irrational numbers is the **Golden Ratio**, represented by the Greek letter ϕ (phi – pronounced “fie” or “fee”). The first definition of this ratio was given by Euclid, the founder of geometry, in about 300 B.C.

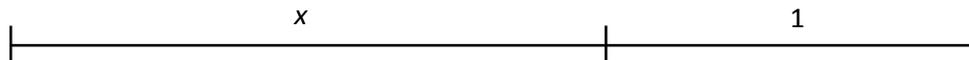
A line segment is said to be cut in the Golden Ratio if the ratio of the whole line segment to the larger part is equal to the ratio of the larger segment to the shorter. In other words, in the diagram below,

$$\frac{a+b}{a} = \frac{a}{b}$$



If the shorter length, b , in the diagram above is 1 unit long, and we try to solve for how long the longer segment is, we get the equation:

$$\frac{x+1}{x} = \frac{x}{1}$$



You will learn how to solve equations like this. For now, all you need to know is that when you solve

this equation, you get $x = \frac{1+\sqrt{5}}{2}$, which is the number known as ϕ , or the Golden Ratio.

- Use your calculator to find ϕ to five decimal places: $\phi =$ _____

What's so special about this irrational number? That's what you will discover in this project!

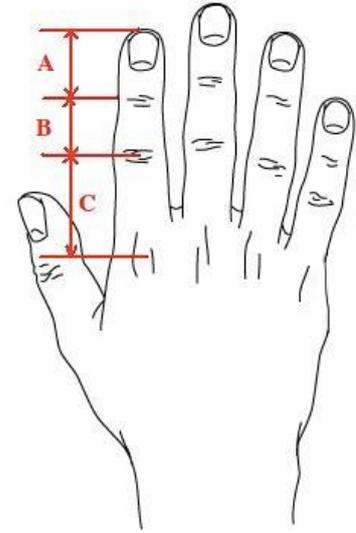
The Golden Ratio and the human body

This exercise is divided into 3 parts:

A. The golden ratio

Measure the following:

- Distance from the ground to your belly button
- Distance from your belly button to the top of your head
- Distance from the ground to your knees
- Distances A, B and C
- Length of your hand
- Distance from your wrist to your elbow



Now calculate the following ratios:

1. Distance from the ground to your belly button / Distance from your belly button to the top of your head
2. Distance from the ground to your belly button / Distance from the ground to your knees
3. Distance C / Distance B
4. Distance B / Distance A
5. Distance from your wrist to your elbow / Length of your hand

Write all your results on the following table:

Student name	Ratio 1	Ratio 2	Ratio 3	Ratio 4	Ratio 5
Average					

Write your comment about what you see anything special about these ratios?

ASSIGNMENT NO.3.MATHEMATICAL ANAGRAMS

Mathematical anagrams.

An anagram is a word or phrase made up of the letters of another word.

These are all made up from maths words.

Can you work them out?

ANGEL	RENUMB	CAR
DOD	CAGEDON	TRAIN LEG
SITE TEAM	MOLERKITE	UMS
LIB LION	BART SUCTION	A CROFT

Fill your answers in the table given below :

SCIENCE

PHYSICS

- Student has to prepare eight different cards (size 4x6 inch) for eight ray diagrams of the images formed by concave mirror and convex mirror. In each card you have to mention the position of object and properties of the image.

Note: Draw the incident ray with blue color, reflected ray with red color and rest part of the ray diagram with pencil.

CHEMISTRY

(A) Balance the following equations and also write the type of reaction.

1. $\text{Mg} + \text{O}_2 \rightarrow \text{MgO}$
2. $\text{Fe}_2\text{O}_3 + \text{Al} \rightarrow \text{Al}_2\text{O}_3 + \text{Fe}$
3. $\text{C}_2\text{H}_6 + \text{O}_2 \rightarrow \text{CO}_2 + \text{H}_2\text{O}$
4. $\text{H}_2\text{O}_2 \rightarrow \text{H}_2 + \text{O}_2$
5. $\text{P} + \text{Cl}_2 \rightarrow \text{PCl}_3$
6. $\text{BaCl}_2 + \text{Al}_2(\text{SO}_4)_3 \rightarrow \text{AlCl}_3 + \text{BaSO}_4$
7. $\text{Zn} + \text{HCl} \rightarrow \text{ZnCl}_2 + \text{H}_2$
8. $\text{PbO} + \text{C} \rightarrow \text{Pb} + \text{CO}_2$
9. $\text{Pb}(\text{NO}_3)_2 + \text{KI} \rightarrow \text{PbI}_2 + \text{KNO}_3$
10. $\text{KClO}_3 \rightarrow \text{KCl} + \text{O}_2$

(B) Write chemical equation for the following

- 1) Barium chloride reacts with zinc sulphate to give zinc chloride and a precipitate of barium sulphate.
- 2) When Methyl alcohol (CH_3OH) burns in air it reacts with oxygen from air to form carbon dioxide and water.
- 3) Solutions of silver nitrate is mixed with a solution of sodium chloride, a white precipitate of silver chloride is formed and sodium nitrate in aqueous.
- 4) Aqueous solution of lead nitrate and sodium sulphate are mixed, a white precipitate of lead sulphate is formed along with sodium nitrate solution.
- 5) Iron(III) sulphate (Ferric sulphate), on reaction with sodium hydroxide solutions, gives brown precipitate of iron (III) hydroxide and sodium sulphate solution.

(C) Corrosion of metals is sometime harmful as well as useful. Explain with help of pictures.

BIOLOGY

Task 1- Make a word puzzle in A4 size blank sheet of paper having a grid of 15 x 10 Columns and place the words in the puzzle whose hints are given below:

- (i) Stored form of food in plants.
- (ii) Gas released during photosynthesis.
- (iii) Ultimate source of energy.
- (iv) Tiny pores present on the surface of leaves.
- (v) Cell organelle where photosynthesis takes place.

- (vi) Raw material of photosynthesis which is reduced to form carbohydrate.
- (vii) Part of plant which transports food to different parts .
- (viii) Molecules used to store energy
- (ix) Chlorophyll absorbs every colour except this colour

Task 2- On a cardboard sheet of A4 size, draw and label the diagram of Human Digestive System using various discarded items (*like wires to make small intestine, thread to make oesophagus, etc.*)

SOCIAL SCIENCE

History & Civics:

Collect information from Newspapers , magazines and text on the movement led by Anna Hazare using the guidelines given below :

1. Who is Anna Hazare? Who were the other people involved?
2. What were the main demands ? How did the government respond to the movement?
3. Methods / strategies adopted to influence the citizens and politics
4. How did they influence the politics /government ?
5. “What role does the Anti corruption movement led by Anna Hazare played in the Indian democracy?”

Note: * Paste newspaper - magazine pictures cuttings for the assignment.
* Total pages should **not exceed, 4 sheets**

GEOGRAPHY

- 1-Suggest six measures to solve the problem of Land Degradation in your area .Explain any four human activities which are mainly responsible for the land degradation in India.
- 2- ‘Sustainable development is a new area of knowledge ‘ .Do you agree? Justify your answer in two pages

ECONOMICS

1. What is B.M.I.?
2. How is calculated?
3. Calculate B.M.I. of at least 5 persons from your family or neighbor (of different height and weight) and comment upon the same.
OR
Identify at least 10-15 developmental goals of your locality.
Classify which of them is available, partially available or unavailable.
4. Comment on the quality of life because of their availability, unavailability and partial unavailability. Support your findings with appropriate pictures.