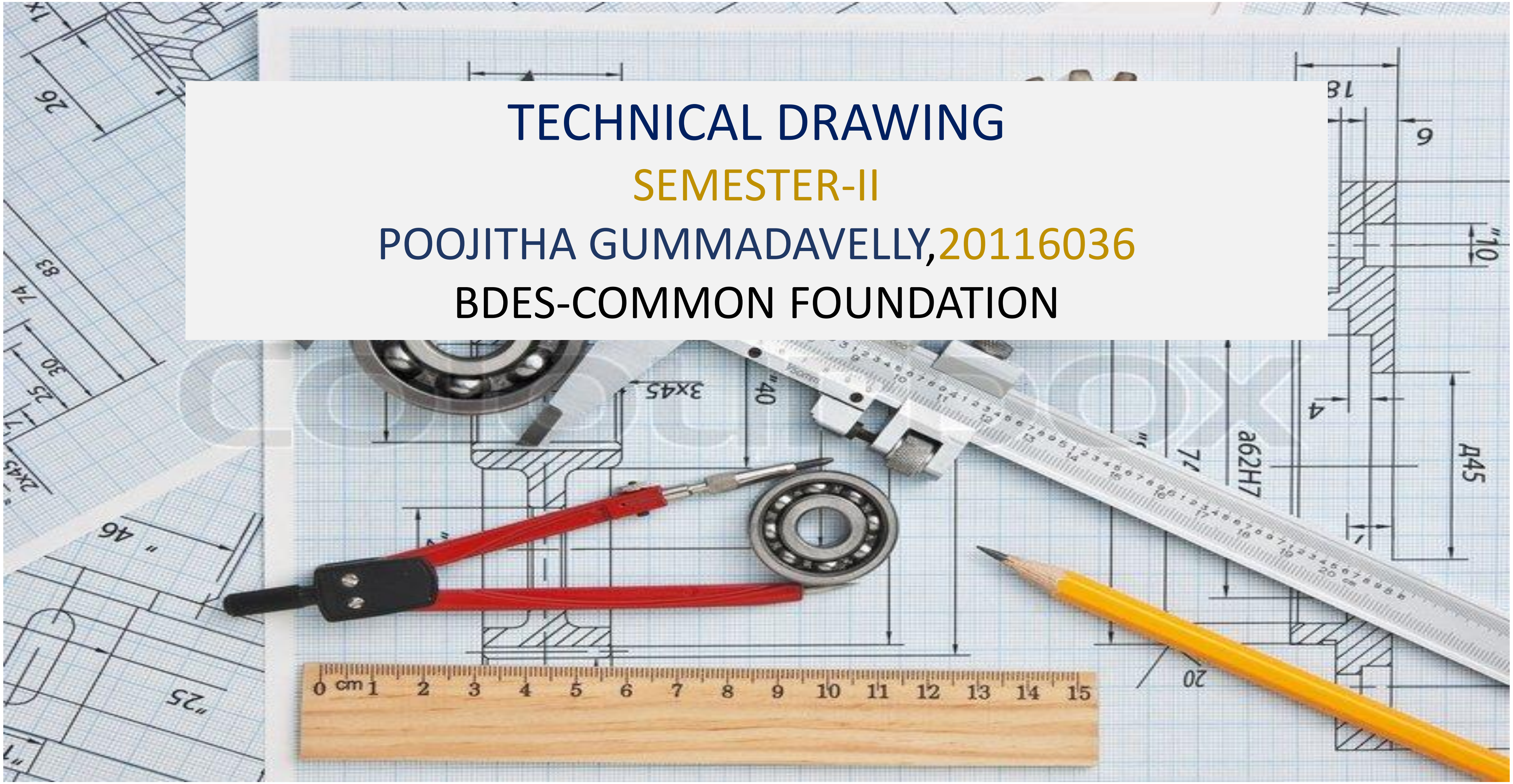


TECHNICAL DRAWING

SEMESTER-II

POOJITHA GUMMADAVELLY,20116036

BDES-COMMON FOUNDATION

COURSE OBJECTIVE

In this course we will study Technical Drawing or simply Geometry and Construction methods. Geometry has provided structure and a visual language to designers for centuries. Geometry and design is interdependent since the time of human origin and extended its wings along with socio-cultural and behavioral advancements. Jointly, geometric and mathematical principles have been interpreted by designers in search of form since the advent of the industrial revolution of the 18th century, when their application to the standardization of components and reliable mass-manufacturing methods made precision work achievable on a commercial scale . The central importance of geometry in modern design has shaped the design and construction of objects that we live with daily, from large buildings to the smallest components of jewellery . Geometry in design shows how geometry has been used by designers and creators of wide material groups, like- wood, ceramics, glass, metalwork, stone, natural fibers, leather etc. Despite all of the different subject areas of mathematics that exist, perhaps geometry has the most profound impact on our everyday lives. Consider the environment you are in right now. Everything around you has a shape, volume, surface area, location and other physical properties. Since its origins, geometry has significantly impacted the ways people live . We may not immediately think & quot ;geometry & quot; when we perform everyday tasks, but, Geometry is all around us. For instance, stop signs have the shape of an octagon, fish tanks must be carefully filled so as to prevent overflowing and gifts need a certain amount of wrapping paper to look nice, just to name a few real-life applications. In this geometry section, you will learn many more applications of geometry that you can use on an everyday basis . As we find ourselves in a dynamic, technologically-driven society, geometry is becoming a subject of increasing importance. For example , molecular modeling is a growing field that requires an understanding of various arrangements of spheres as well as the ability to compute molecular properties like volume and topology. Architecture is another major application of geometry. The construction of a building and the structure of its components are important to consider in order to maximizing building safety. In order to make a garment out of textile or leather, we simply have to use a 2D (two dimensional) surface into a 3D (three dimensional) form to fit a body in proportion.

LINE DRAWING EXERCISES

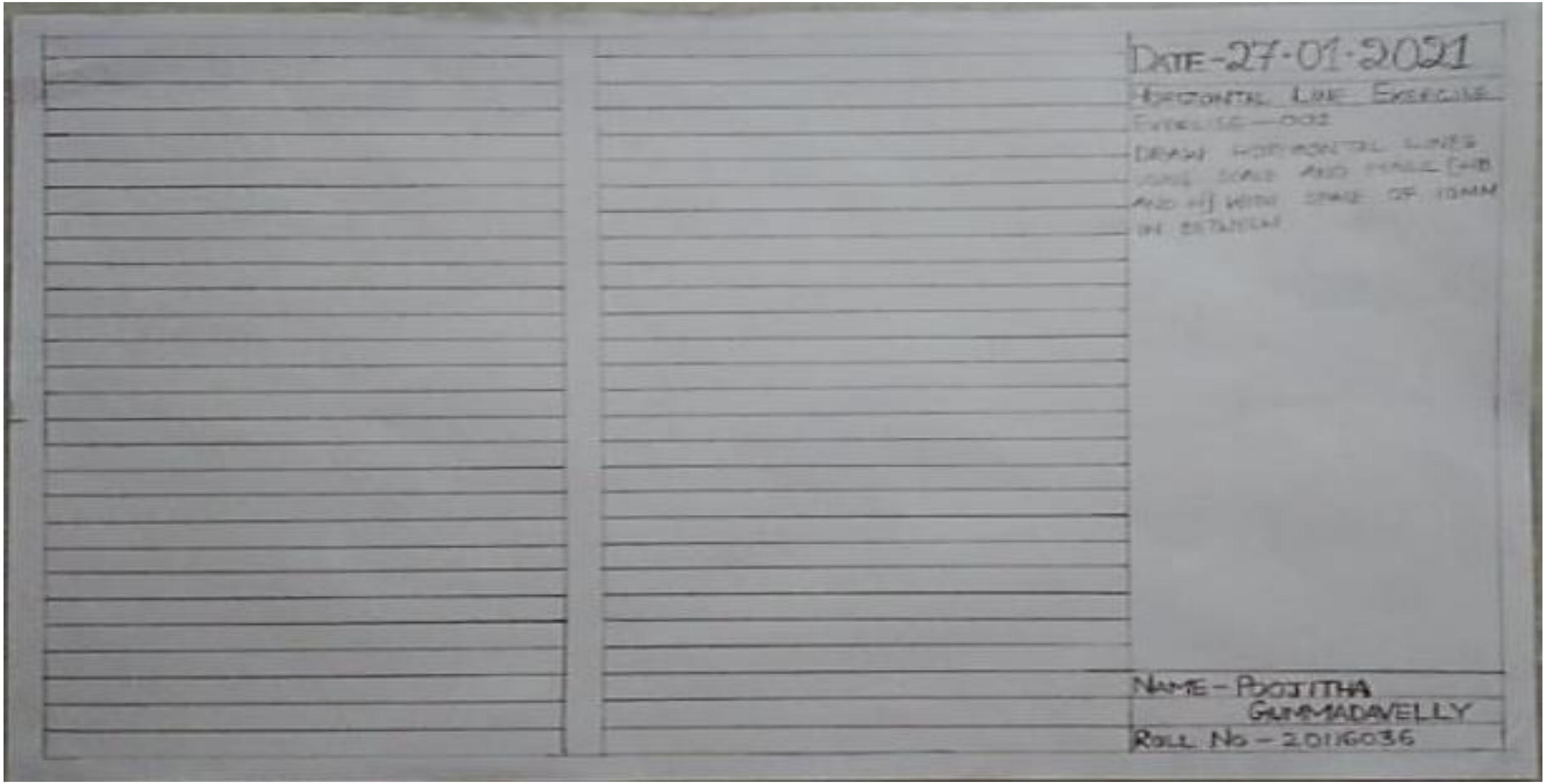
In this exercise, you need to develop control over using T-scale. This exercise is a set of 3 different sub-exercises:

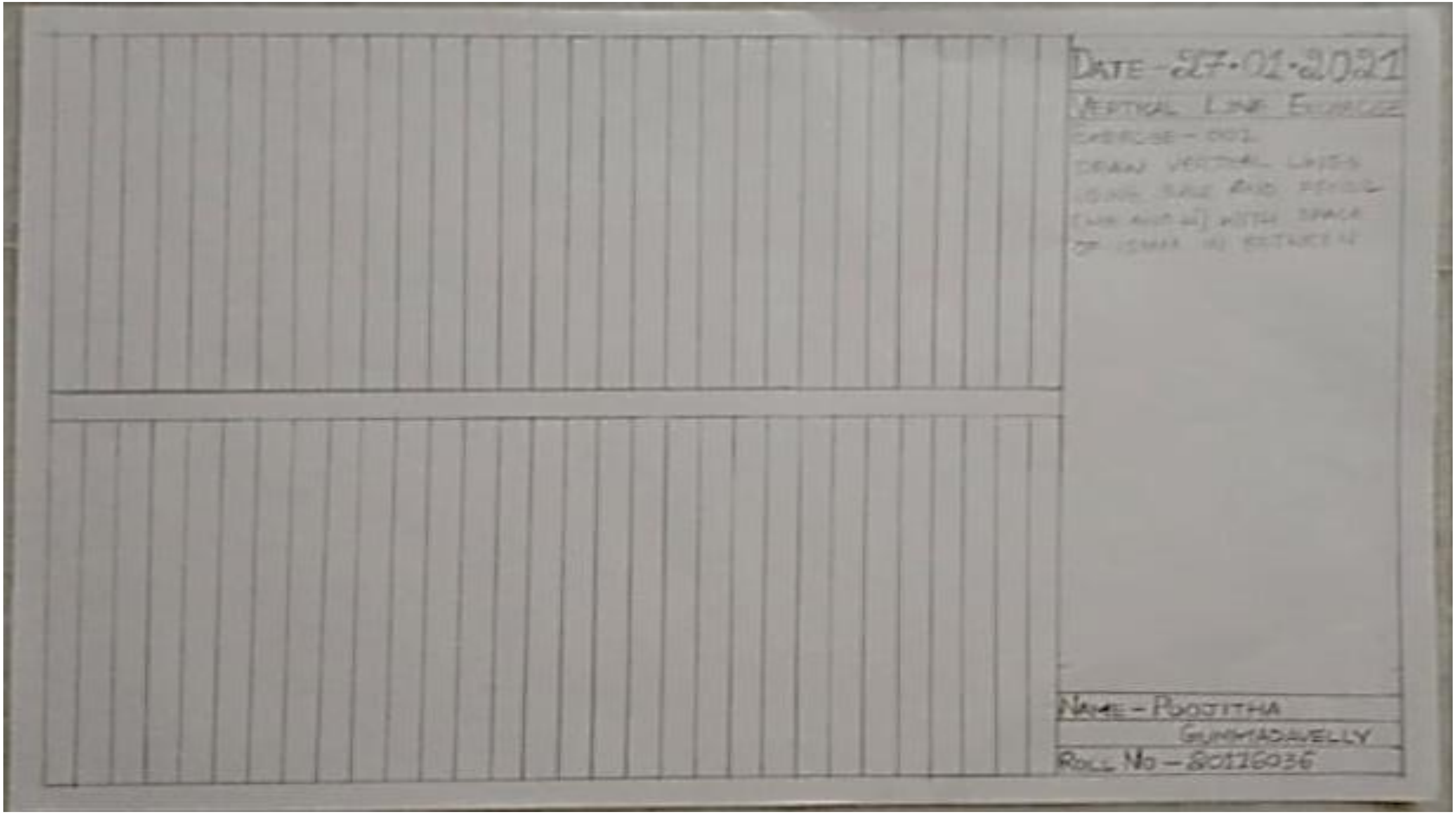
(A) HORIZONTAL

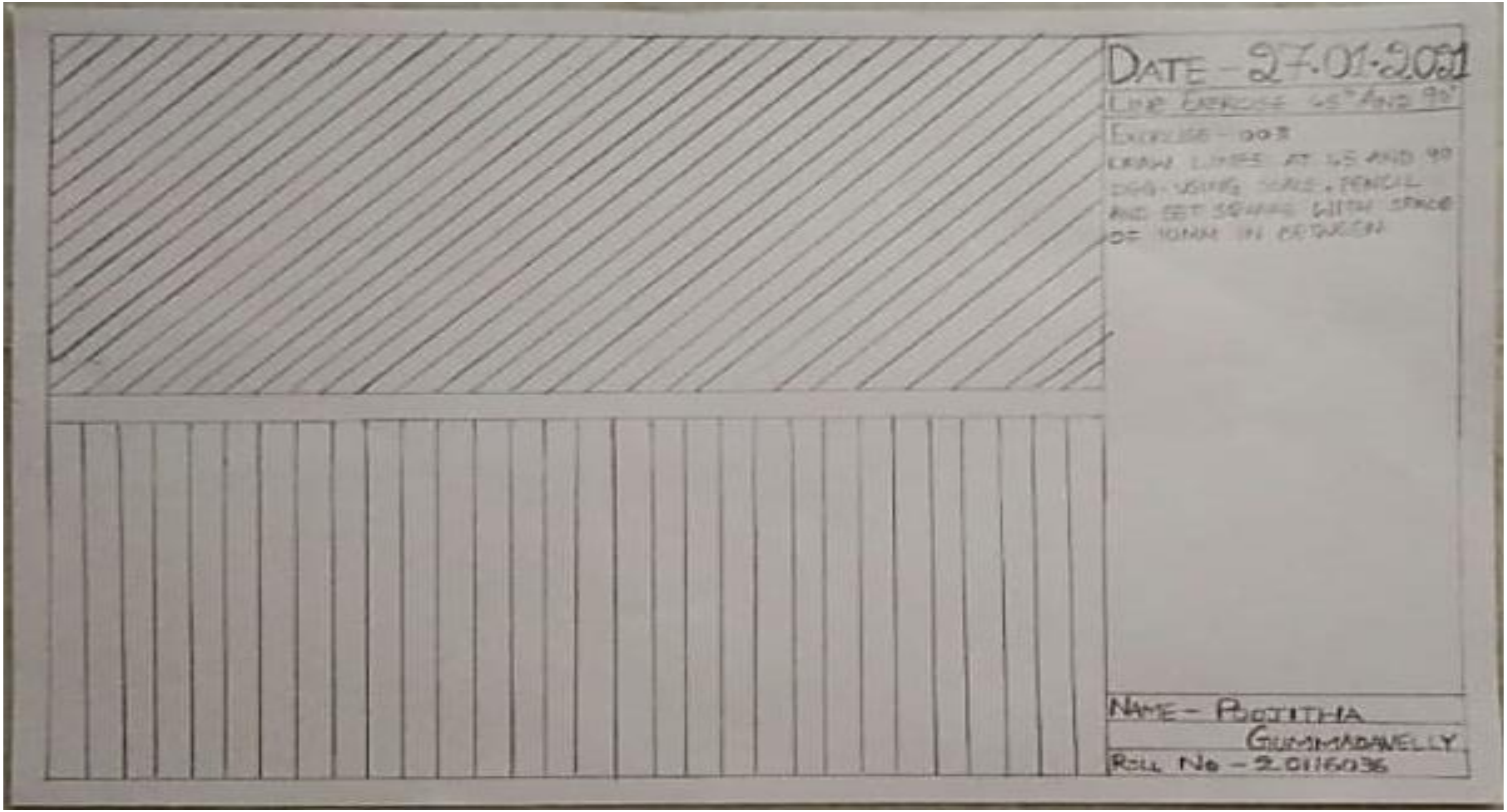
(B) VERTICAL

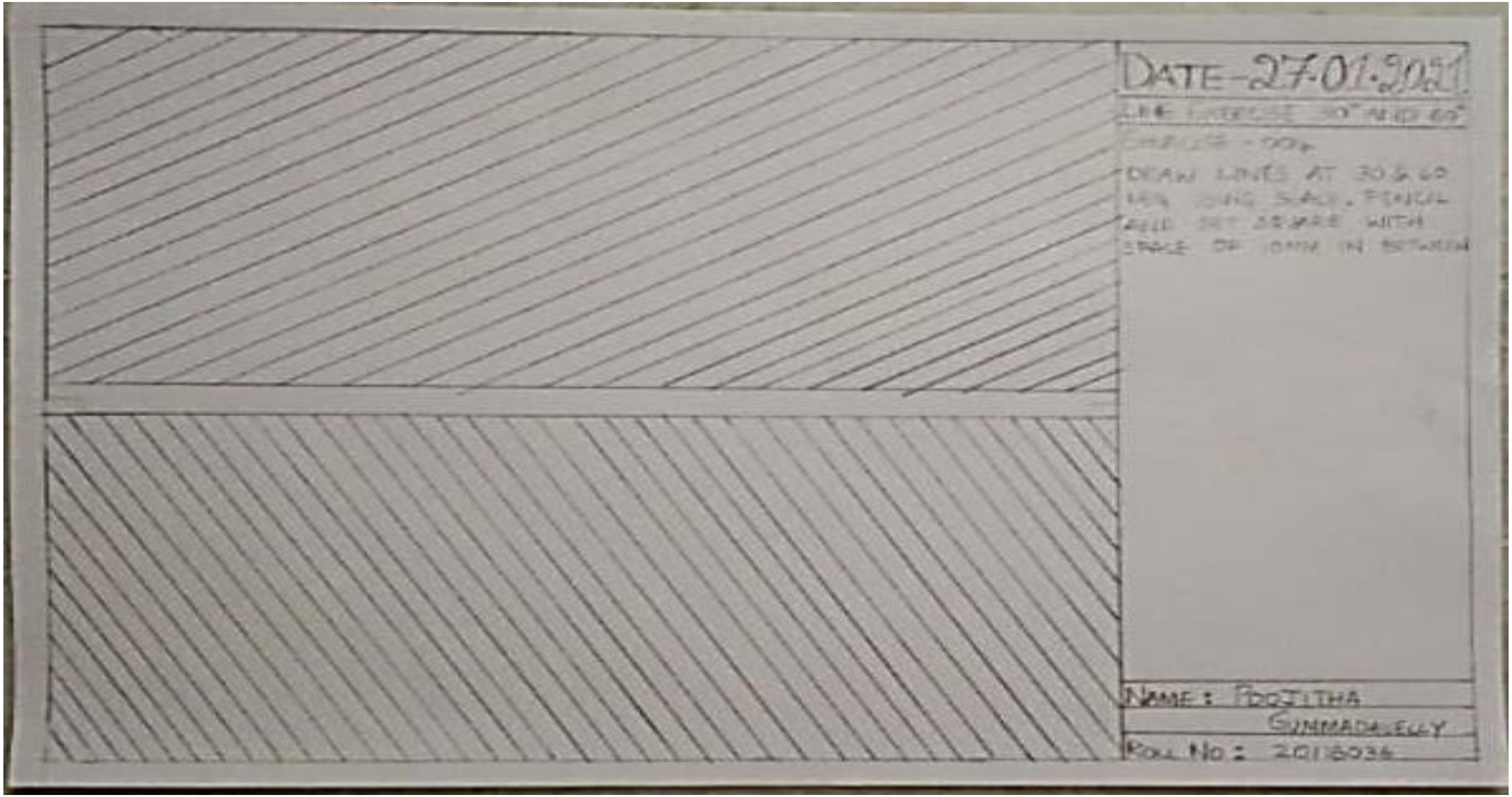
(C) DIAGONAL

In this exercise, you need to draw Horizontal, Vertical and Diagonal lines by using your HB pencil. Keep 1 cm difference between each line. In this exercise, you will be accessed on the basis of quality of lines, i.e. uniformity in pencil-paper touch, tonal value of line, continuity of line between start and end points etc.


DATE-27-01-2021
HORIZONTAL LINE EXERCISE
NAME- POOJITHA
GUMMADAVELLY
ROLL No - 20116036

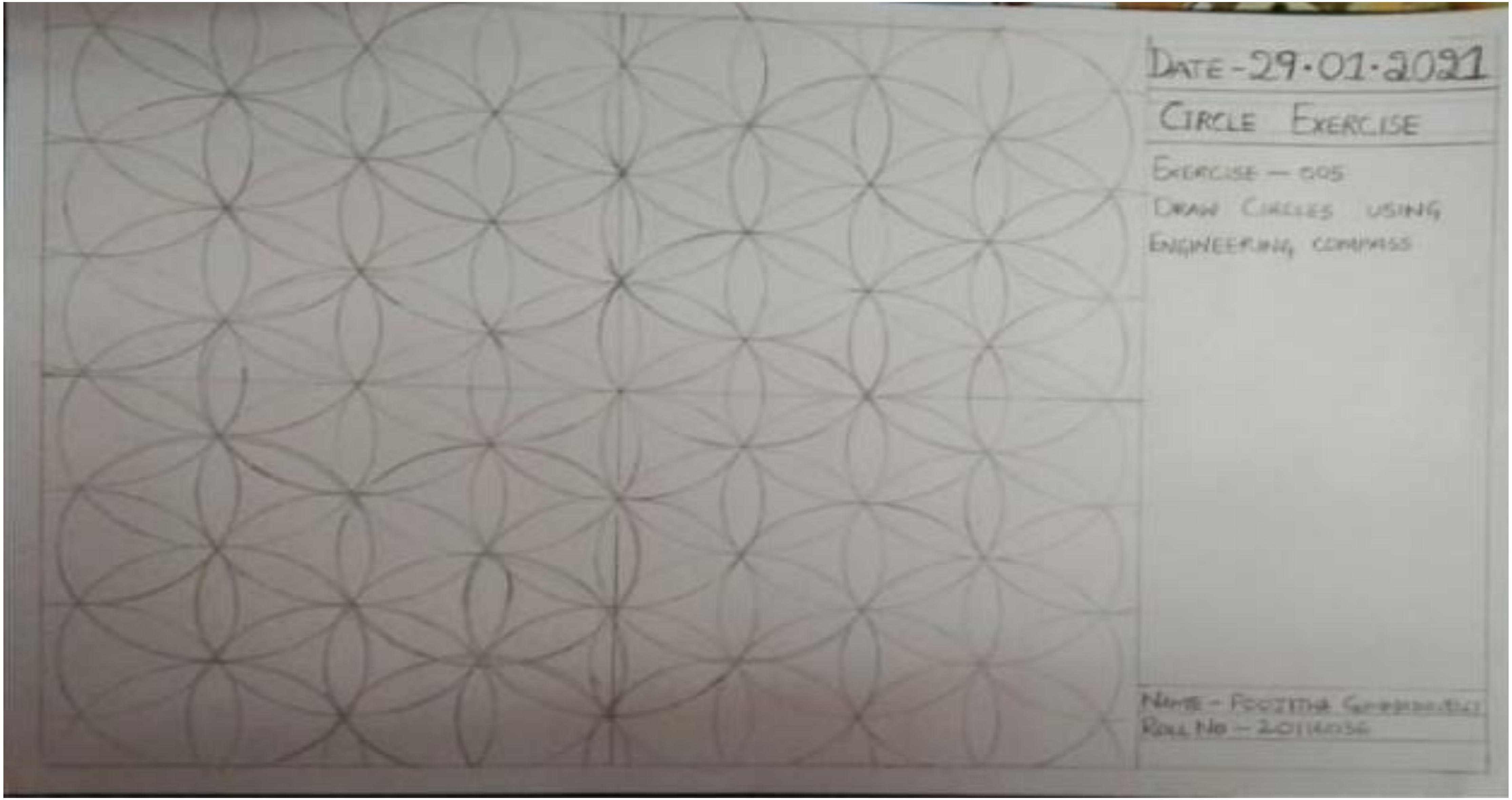

DATE - 27-01-2021
NAME - POOJITHA
GUMMADAVELLY
ROLL NO - 20116036


DATE - 27.01.2021
NAME - POOJITHA
GUMMADAVELLY
ROLL No - 20116036


DATE-27.01.2021
NAME : POOJITHA
GUMMADAVELLY
ROLL NO : 2018036

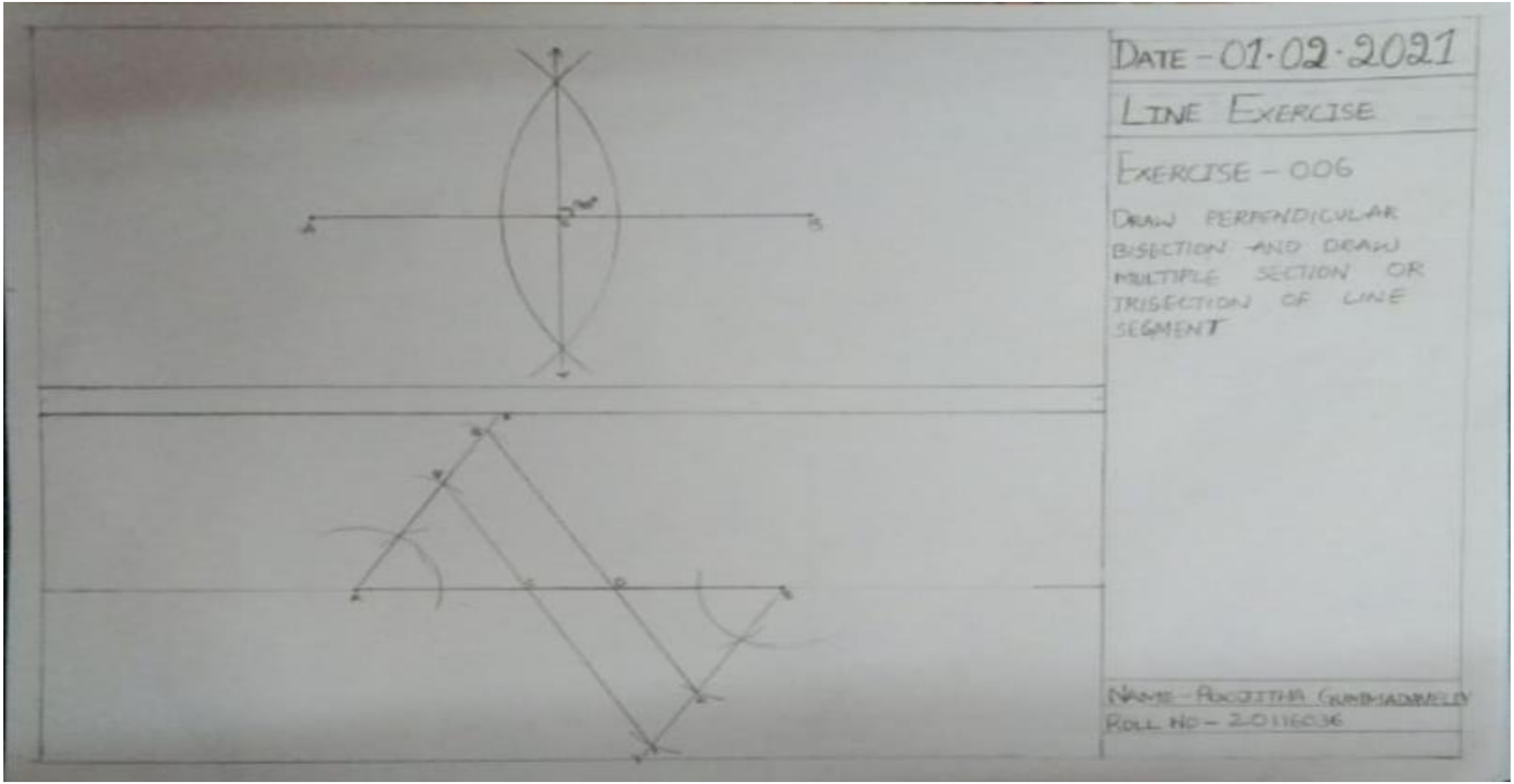
CIRCLE DRAWING EXERCISE

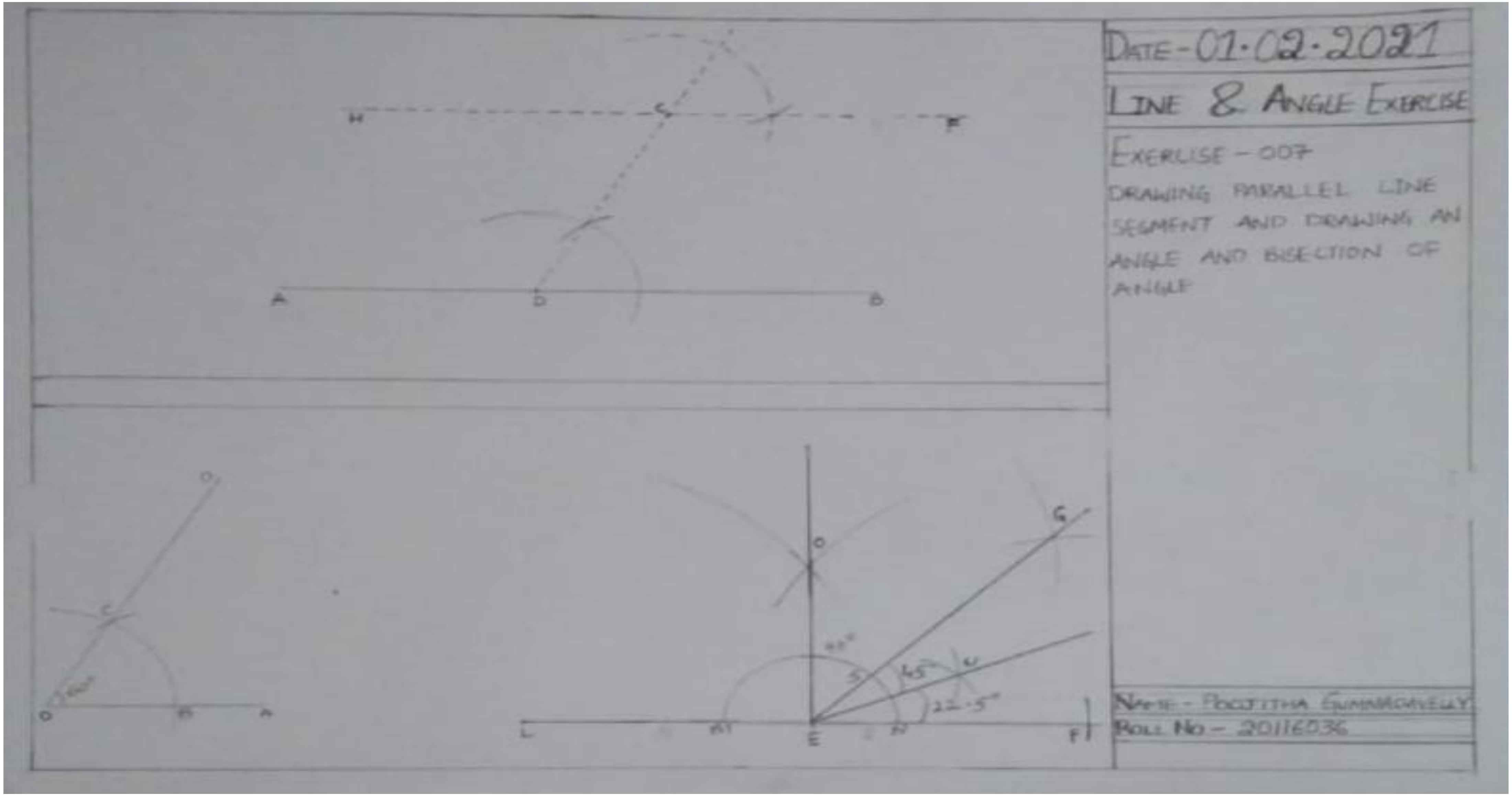
In this exercise, you need to develop control over using compass.
In this exercise, you need to draw a circle at the center of the page with HB pencil of
radius 3 cm.
In this exercise, you will be assessed on the quality of lines, i.e. uniformity in paperpencil touch, tonal value of circle, continuity of circle between start and end point
etc.
We have to get a flower shape and complete until we get complete flower on the full page.

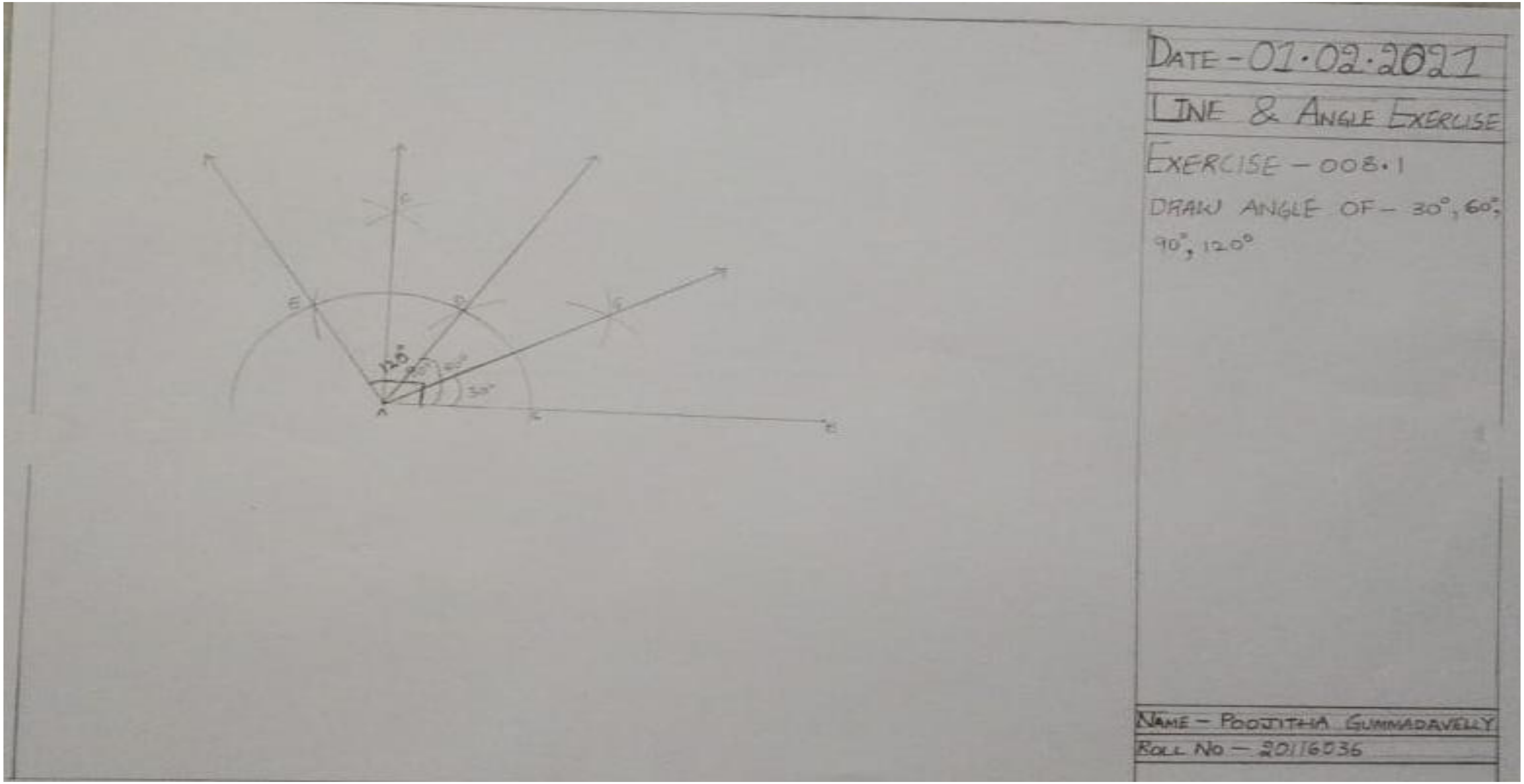

DATE - 29·01·2021
CIRCLE EXERCISE
EXERCISE — 005
DRAW CIRCLES USING
ENGINEERING COMPASS
NAME - POOJITHA

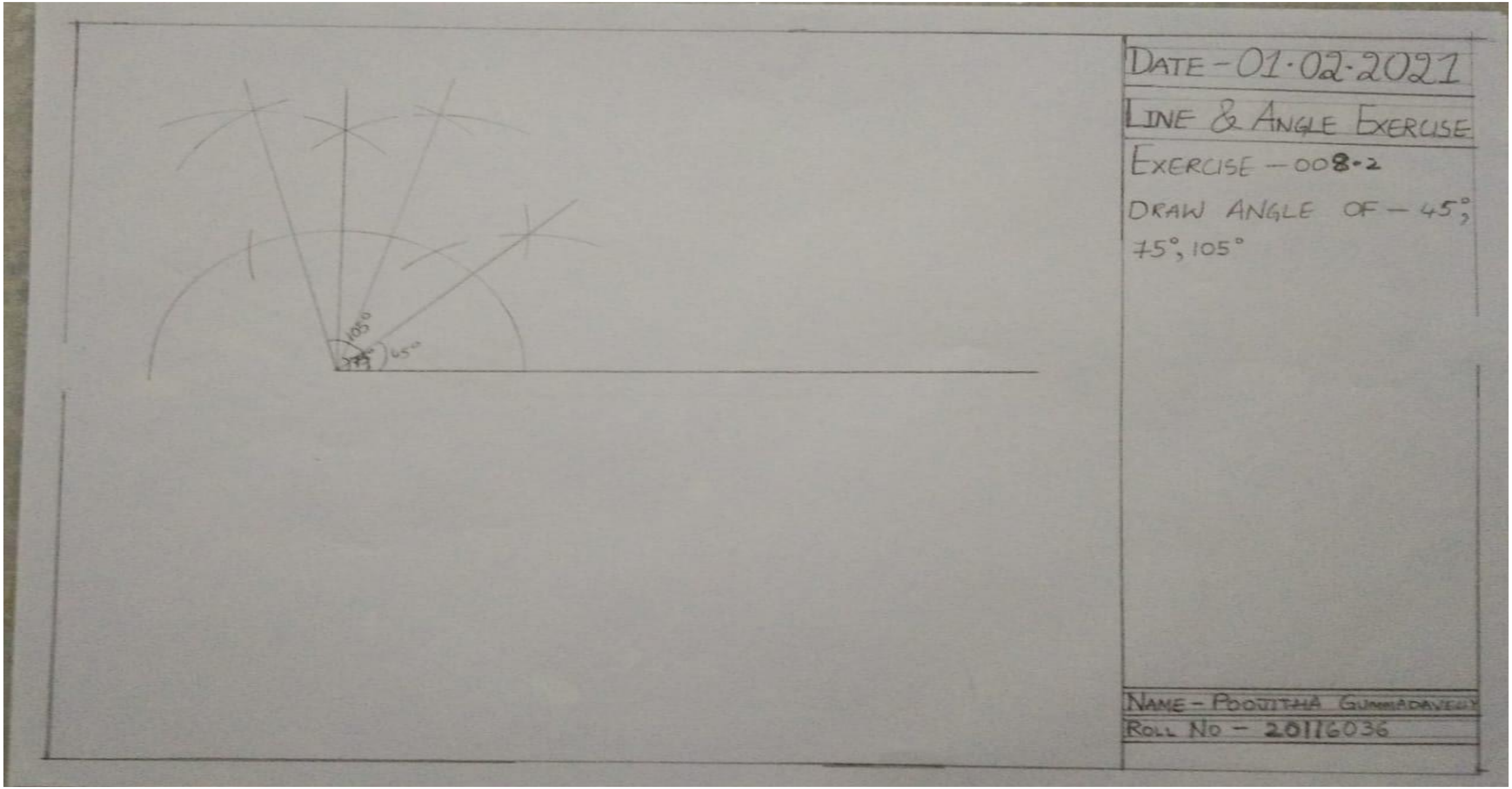
LINE AND ANGLE EXERCISE

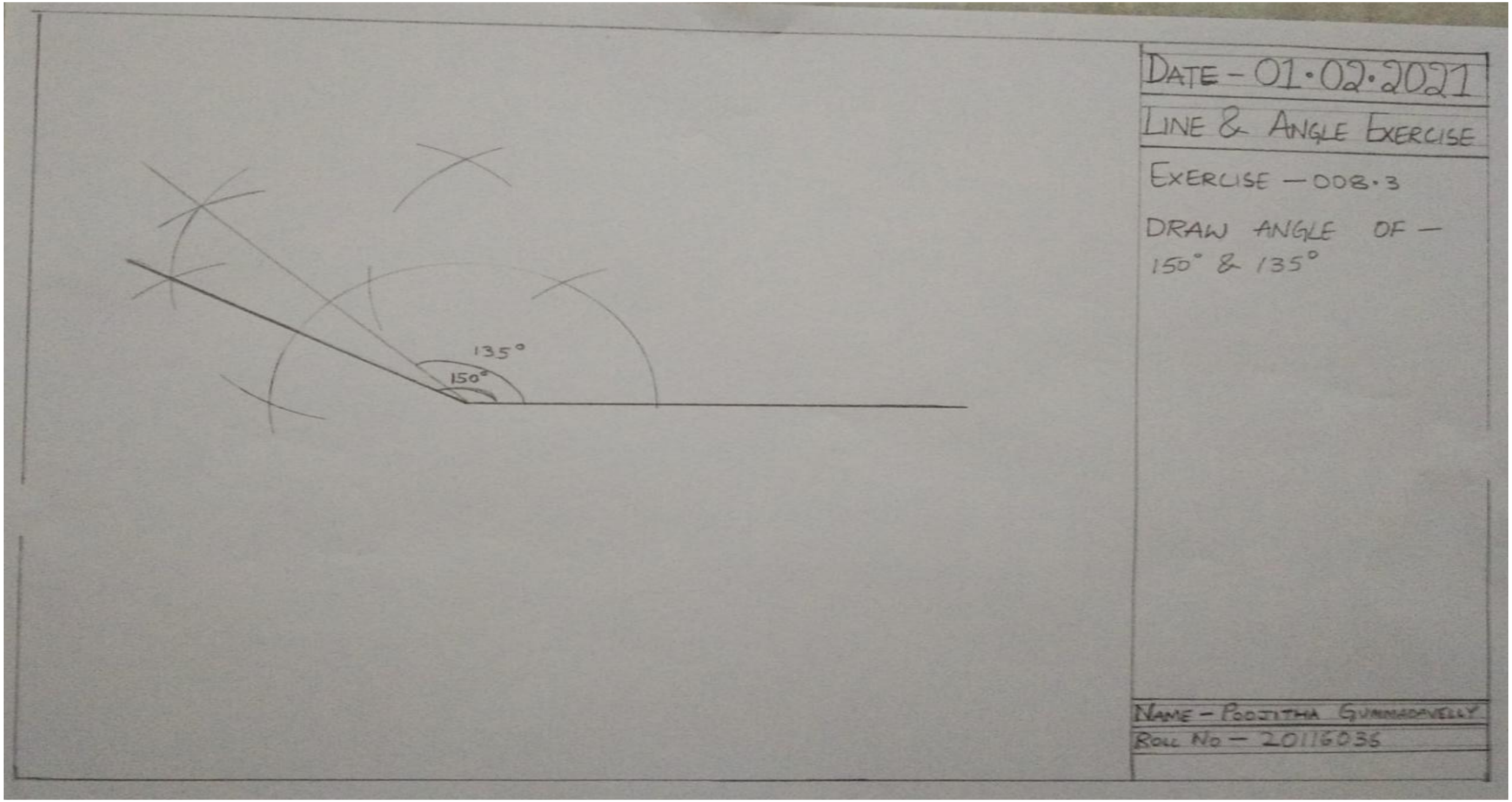
In this exercise, you need to develop control T-scale and compass.
In this exercise we get to know how to draw perpendicular bisector, multiple section or trisection ,
parallel line and bisection of angle of line segment.
In this exercise, we also get to know construction of angles 30, 45, 60, 75, 90, 105, 120, 135, 150
deg using compass and scale


DATE - 01·02·2021
LINE EXERCISE
EXERCISE - 006
DRAW PERPENDICULAR BISECTION AND DRAW MULTIPLE SECTION OR TRISECTION OF LINE SEGMENT
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036


DATE-01.02.2021
LINE & ANGLE EXERCISE
EXERCISE - 007
DRAWING PARALLEL LINE SEGMENT AND DRAWING AN ANGLE AND BISECTION OF ANGLE
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036
45°
22.5°

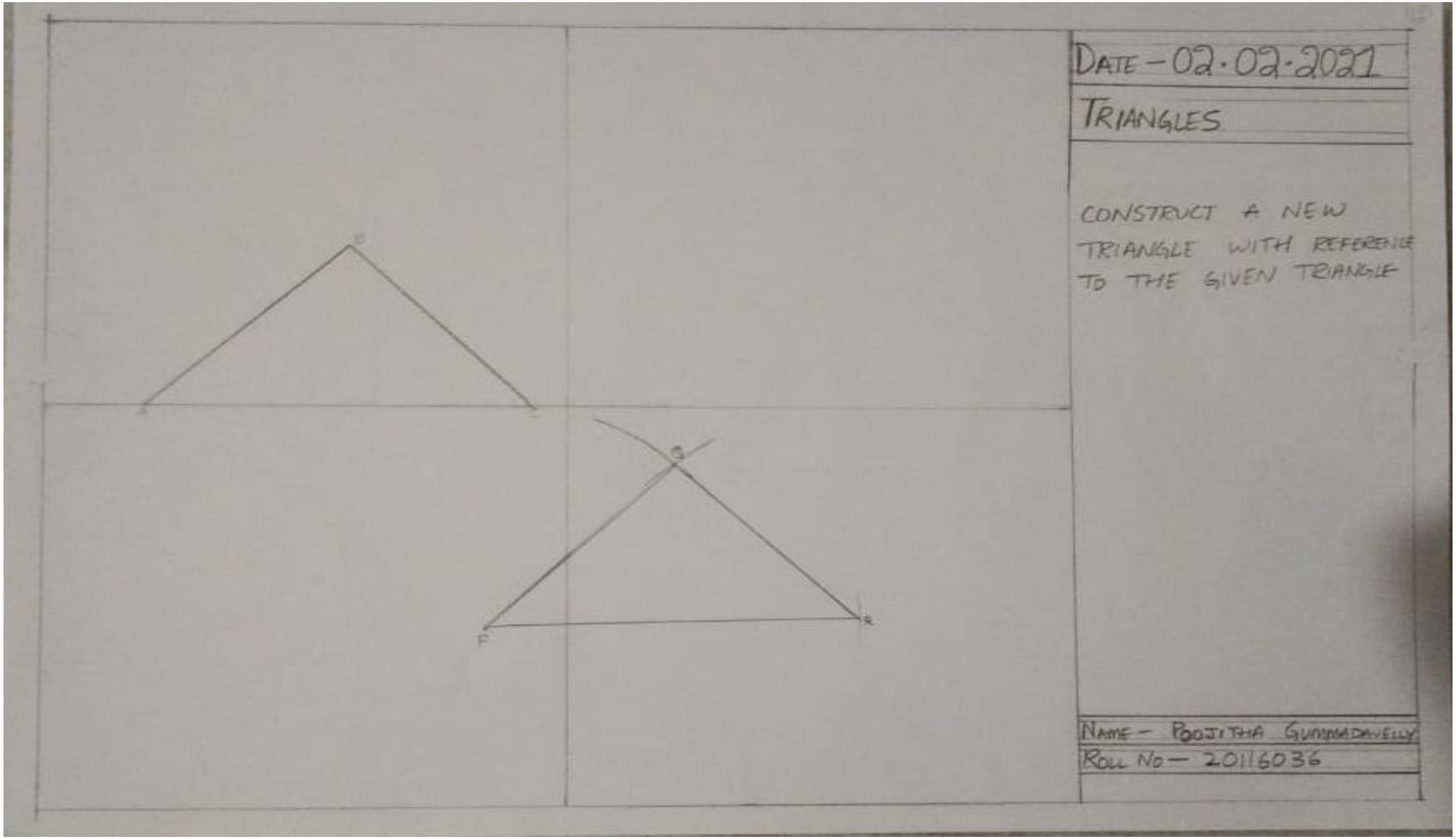

DATE - 01·02·2021
LINE & ANGLE EXERCISE
EXERCISE - 008.1
DRAW ANGLE OF - 30°, 60°, 90°, 120°
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036

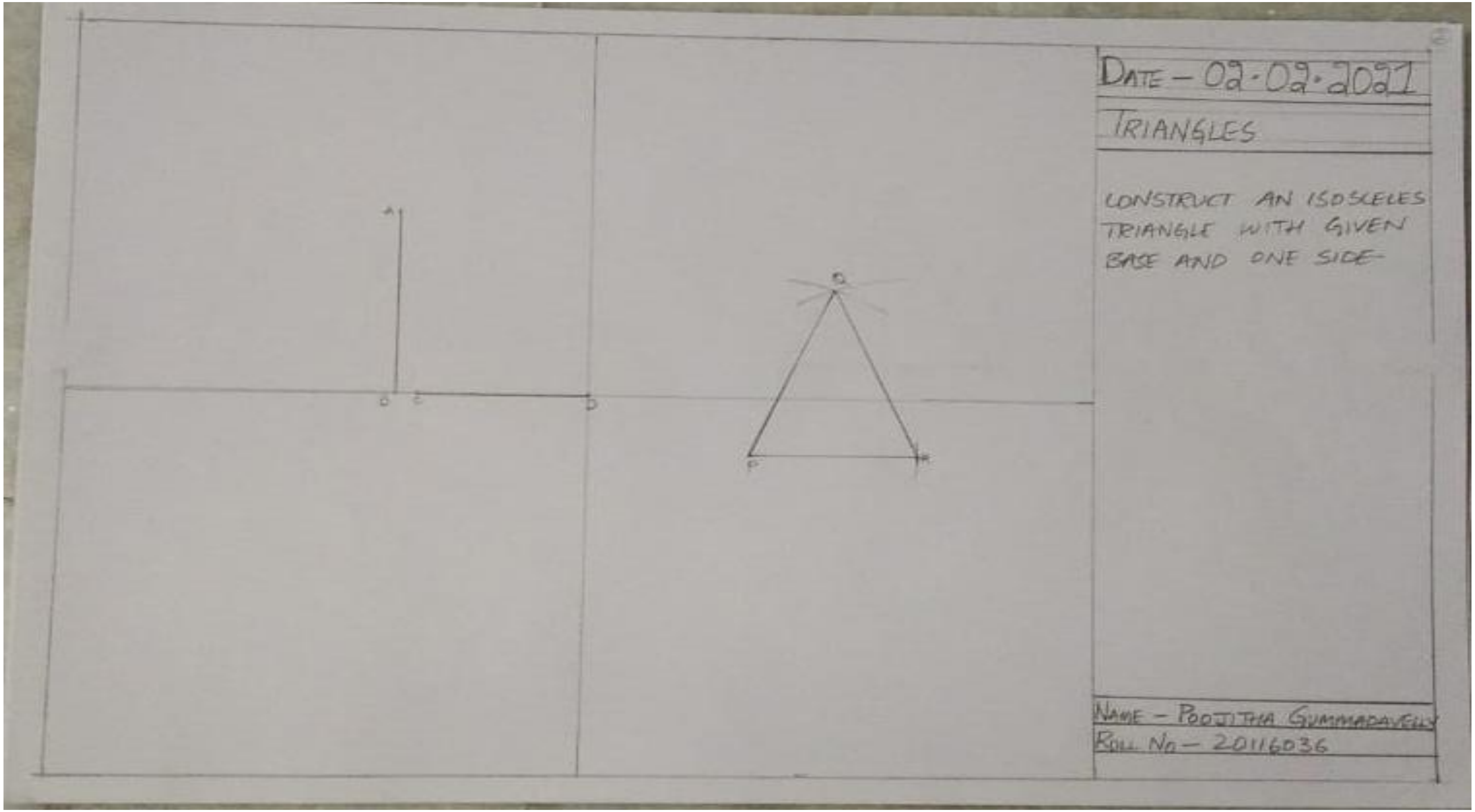

DATE - 01·02·2021
LINE & ANGLE EXERCISE
EXERCISE - 008-2
DRAW ANGLE OF - 45°, 75°, 105°
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036

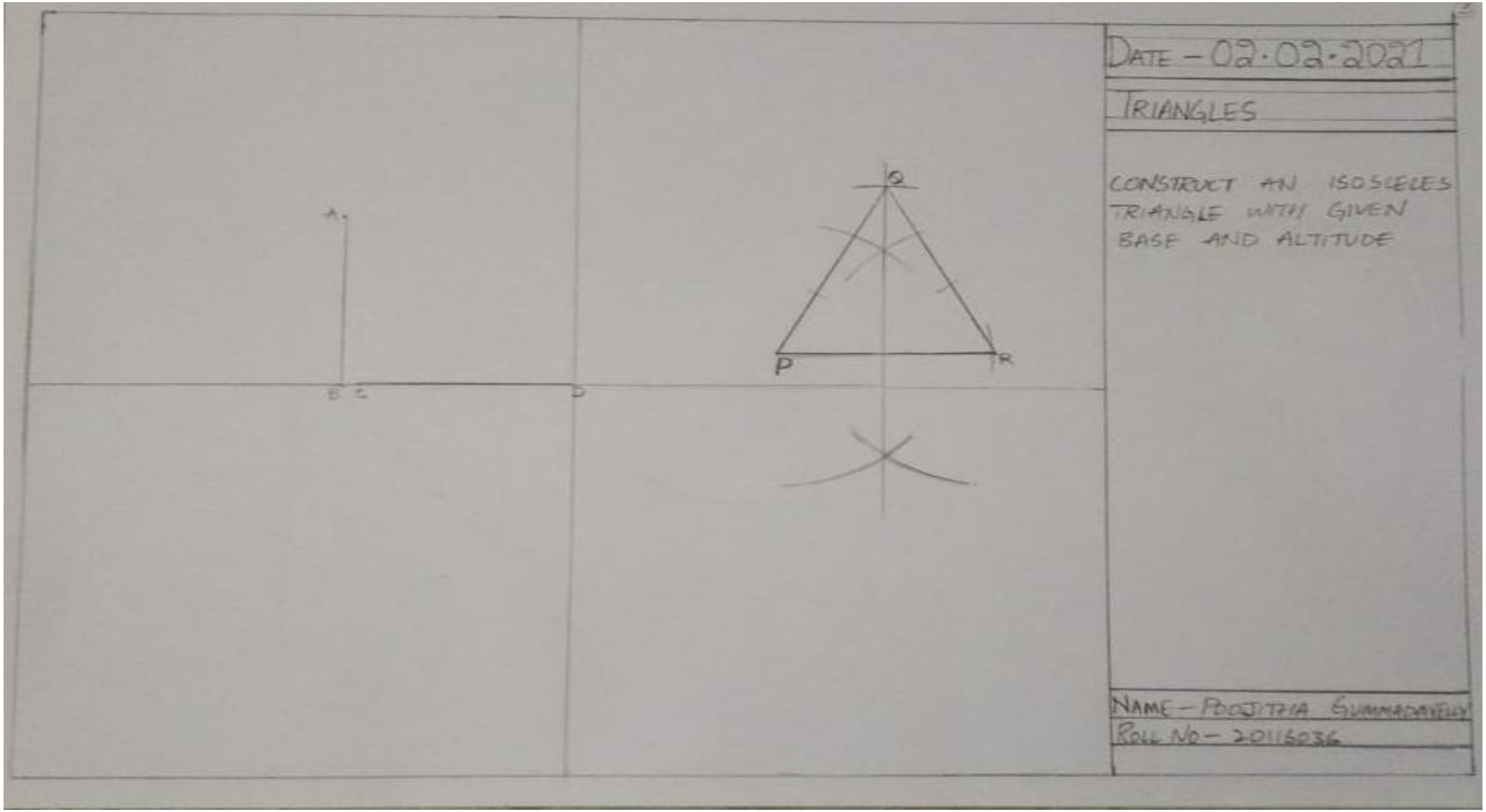

DATE - 01·02·2021
LINE & ANGLE EXERCISE
EXERCISE - 008·3
DRAW ANGLE OF -
150° & 135°
135°
150°
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036

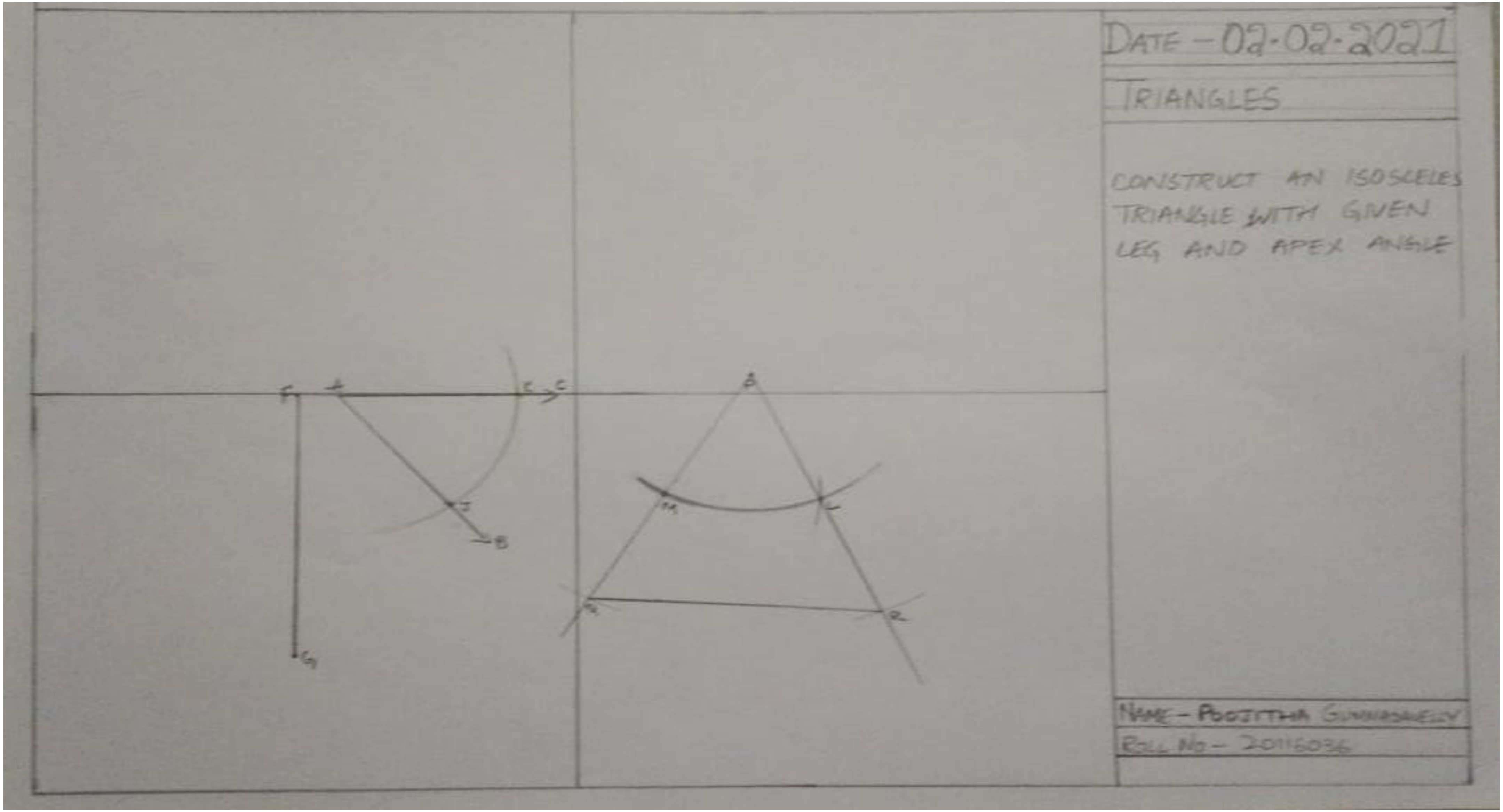
TRIANGLE EXERCISE

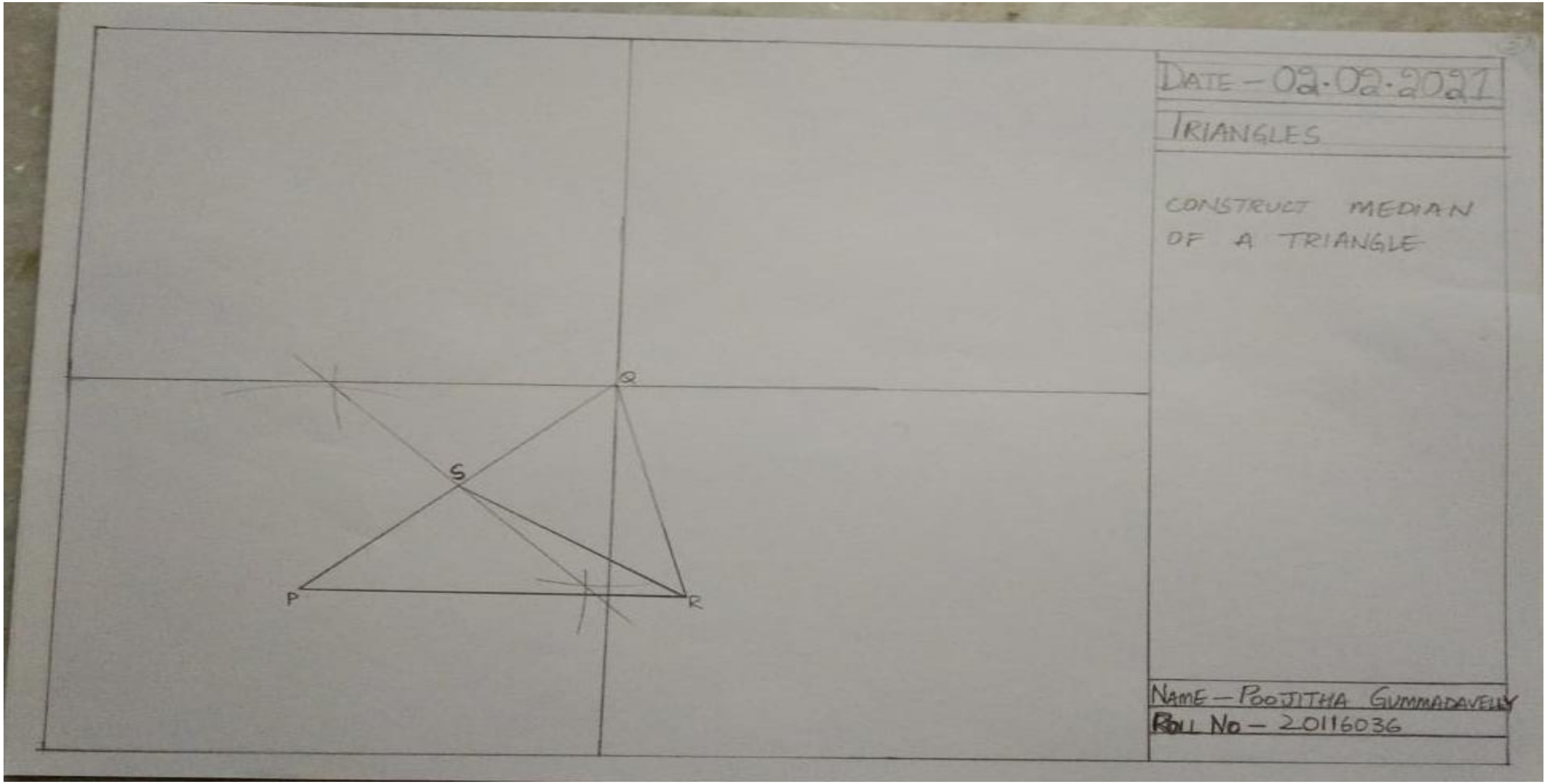
In this exercise , you need to develop control over using T-scale. This exercise has several sub-exercises, in which we are supposed to develop a triangle with given sides and angles . And also to construct in-center, circum-center, orthocenter, centroid.

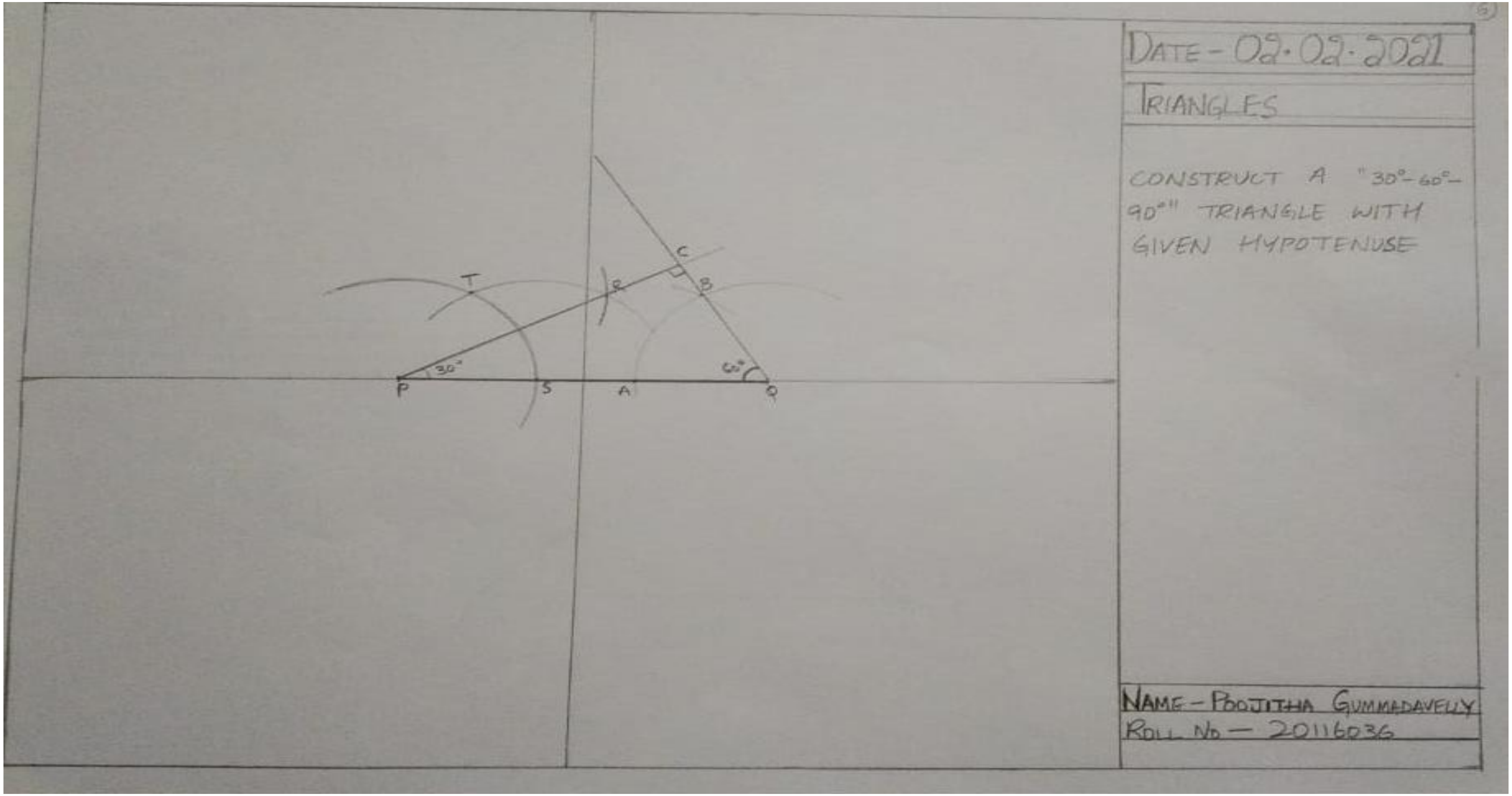

DATE - 02.02.2021
TRIANGLES
CONSTRUCT A NEW TRIANGLE WITH REFERENCE TO THE GIVEN TRIANGLE
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036


DATE – 02·02·2021
TRIANGLES
CONSTRUCT AN ISOSCELES TRIANGLE WITH GIVEN BASE AND ONE SIDE
NAME – POOJITHA GUMMADAVELLY
ROLL NO – 20116036

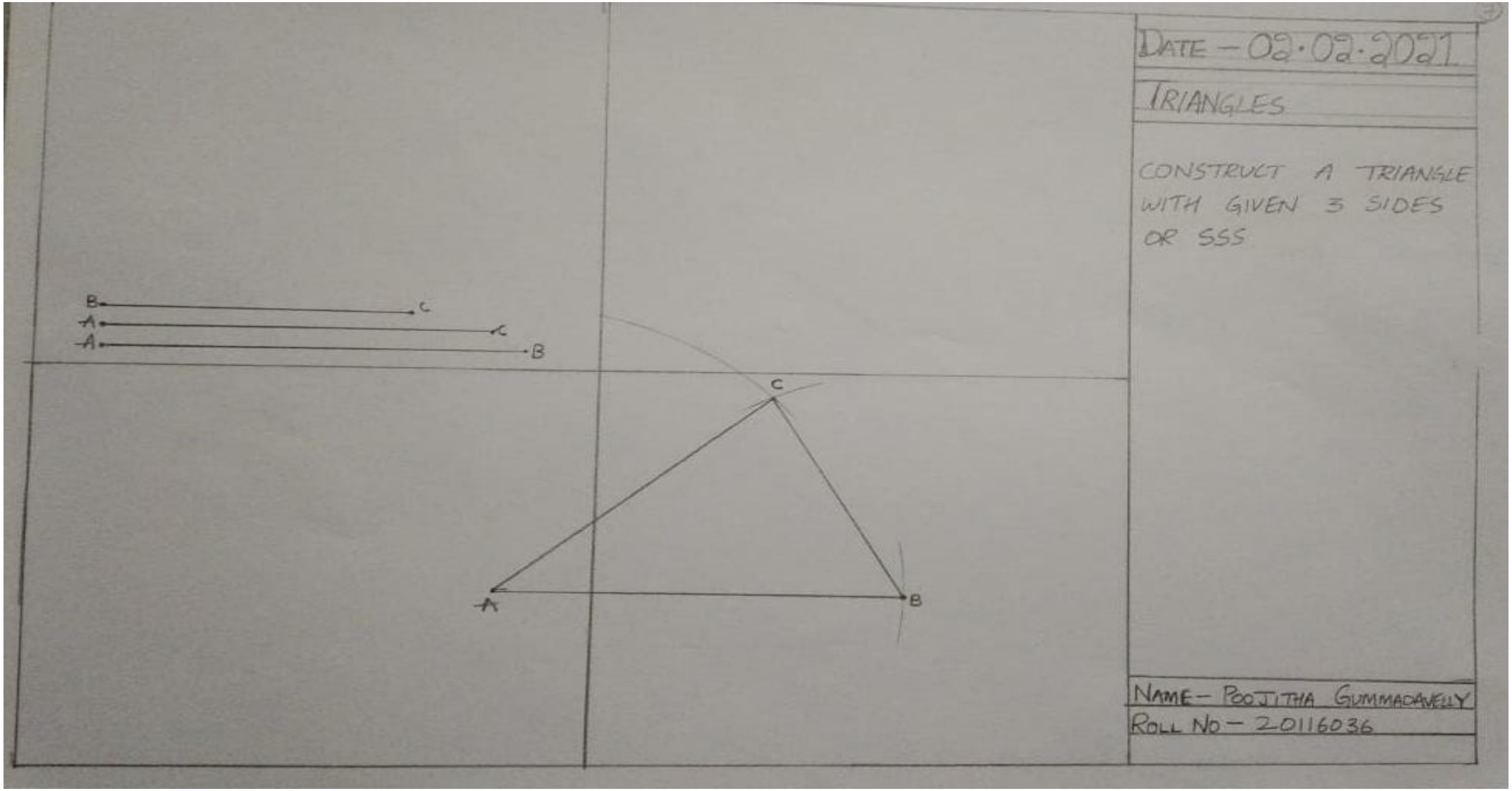

DATE - 02.02.2021
TRIANGLES
CONSTRUCT AN ISOSCELES TRIANGLE WITH GIVEN BASE AND ALTITUDE
A
B C
D
Q
P
R
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036

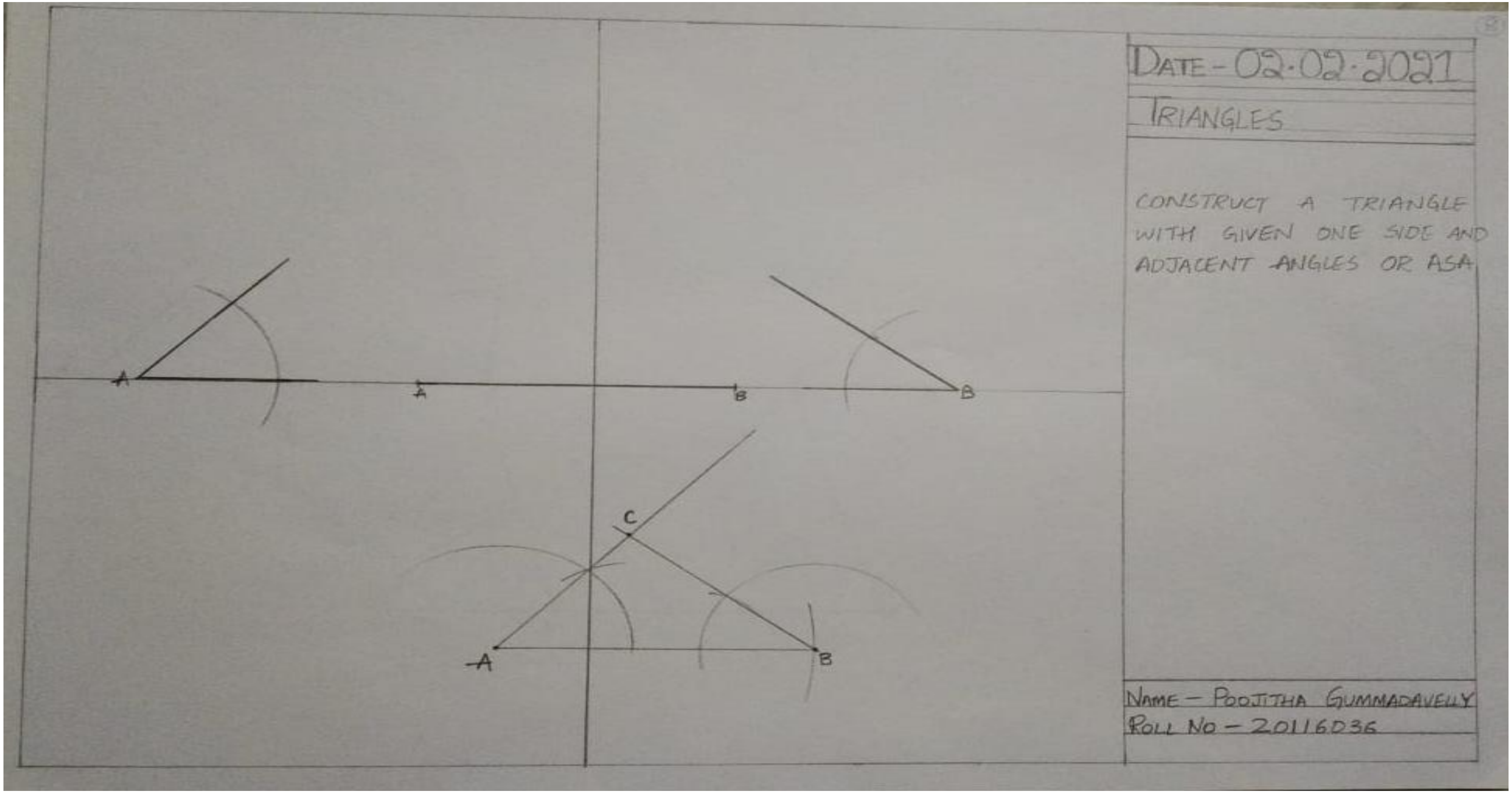

DATE - 02-02-2021
TRIANGLES
CONSTRUCT AN ISOSCELES TRIANGLE WITH GIVEN LEG AND APEX ANGLE
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036

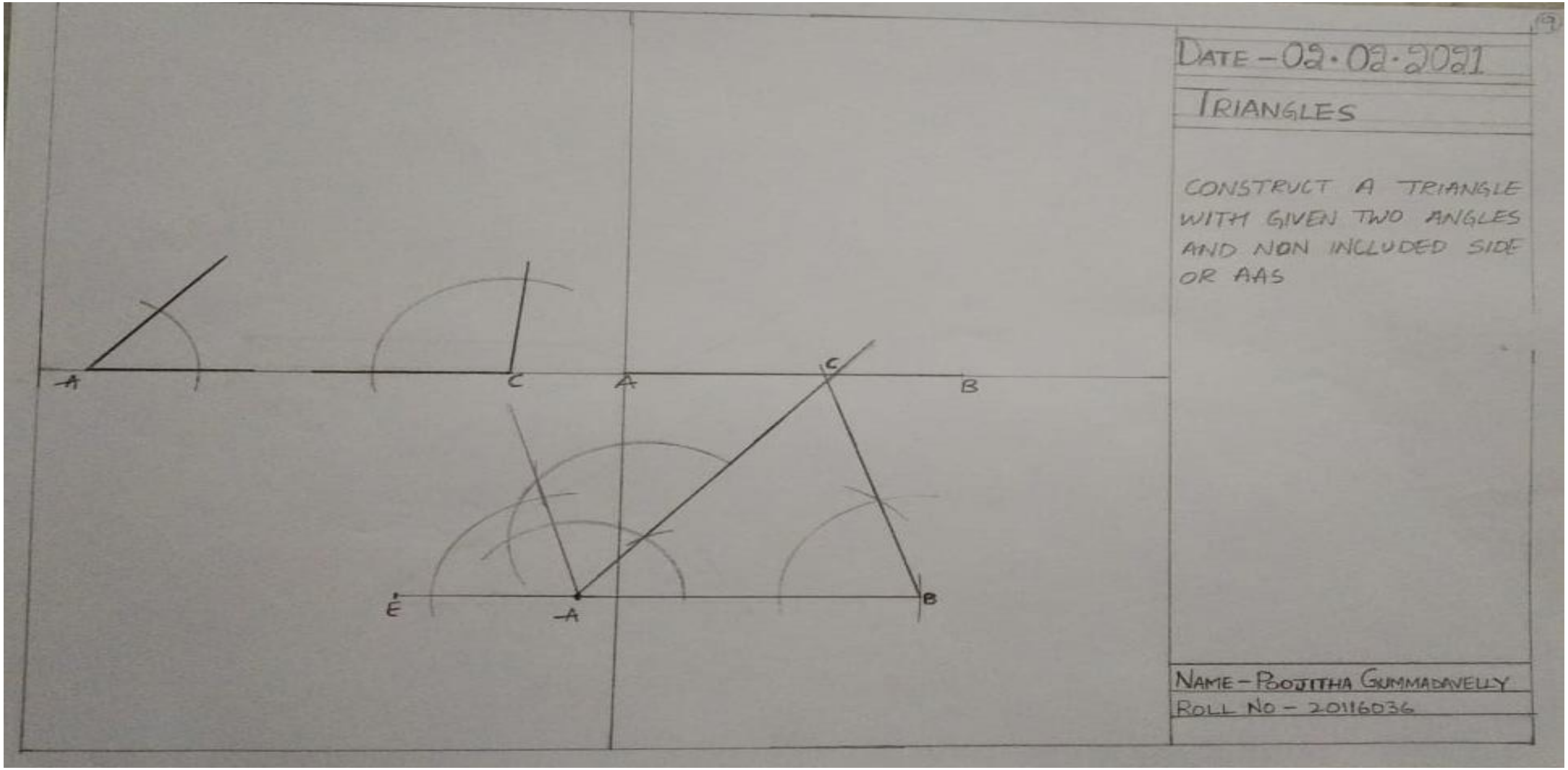

DATE – 02.02.2021
TRIANGLES
CONSTRUCT MEDIAN OF A TRIANGLE
NAME – POOJITHA GUMMADAVELLY
ROLL NO – 20116036
Q
S
P
R



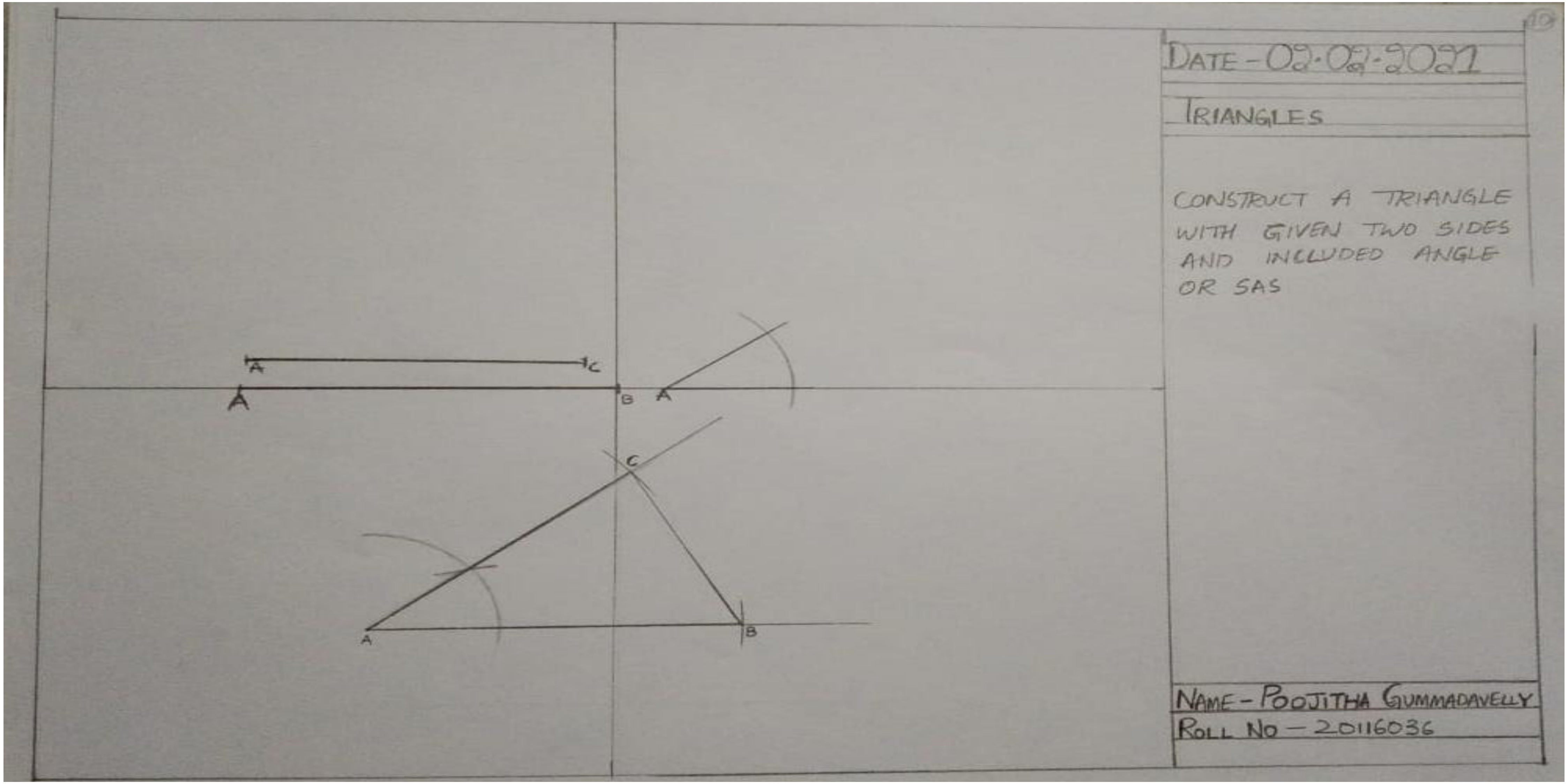
DATE - 02.02.2021
TRIANGLES
CONSTRUCT A "30°-60°-90°" TRIANGLE WITH GIVEN HYPOTENUSE
NAME - POOJITHA GUMMADAVELLY
ROLL No - 20116036
T
R
C
B
30°
60°
P
S
A
Q

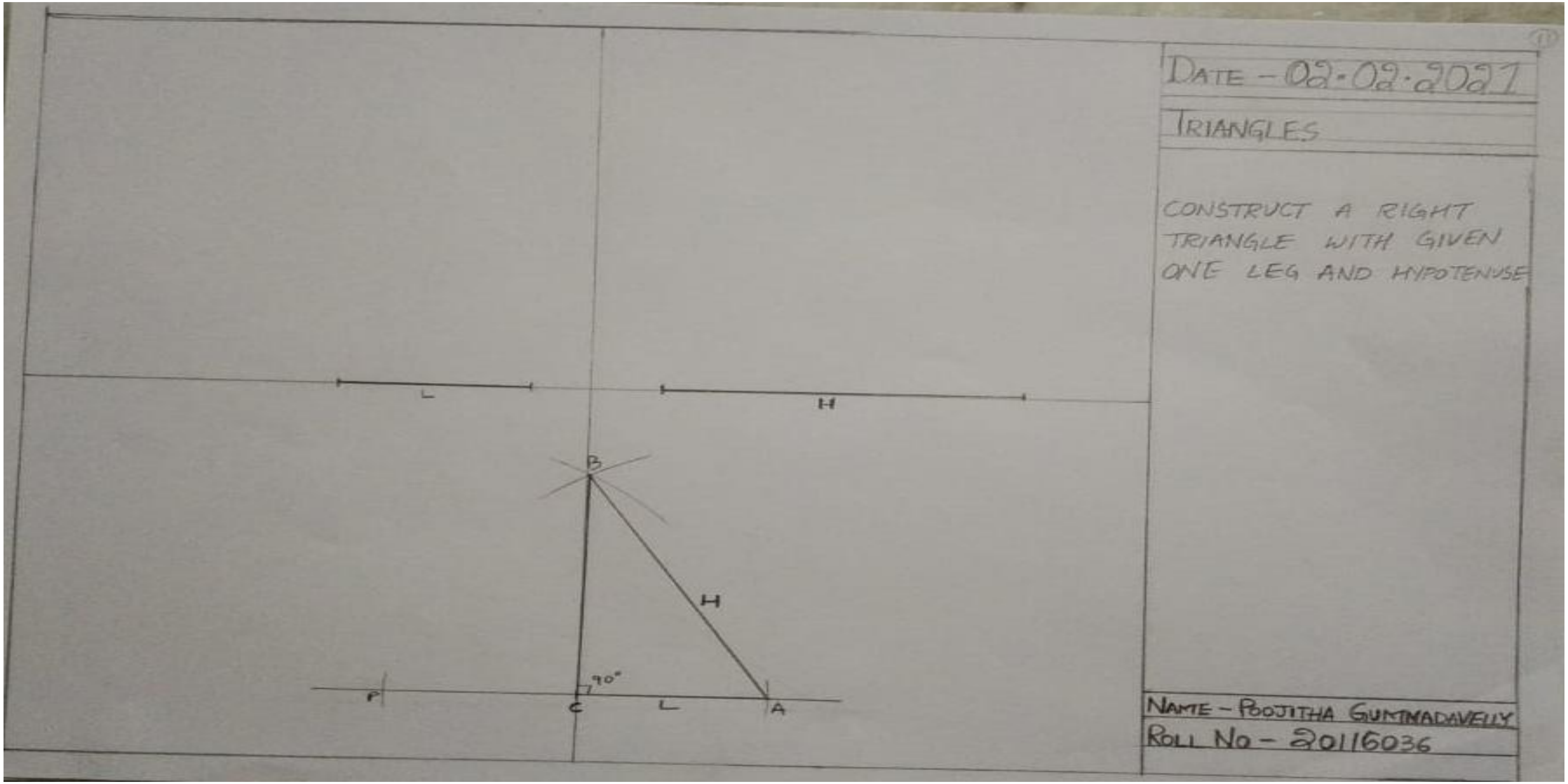

DATE - 02·02·2021
TRIANGLES
CONSTRUCT A TRIANGLE WITH GIVEN 3 SIDES OR SSS
B C
A C
A B
C
A
B
NAME- POOJITHA GUMMADAVELLY
ROLL NO - 20116036

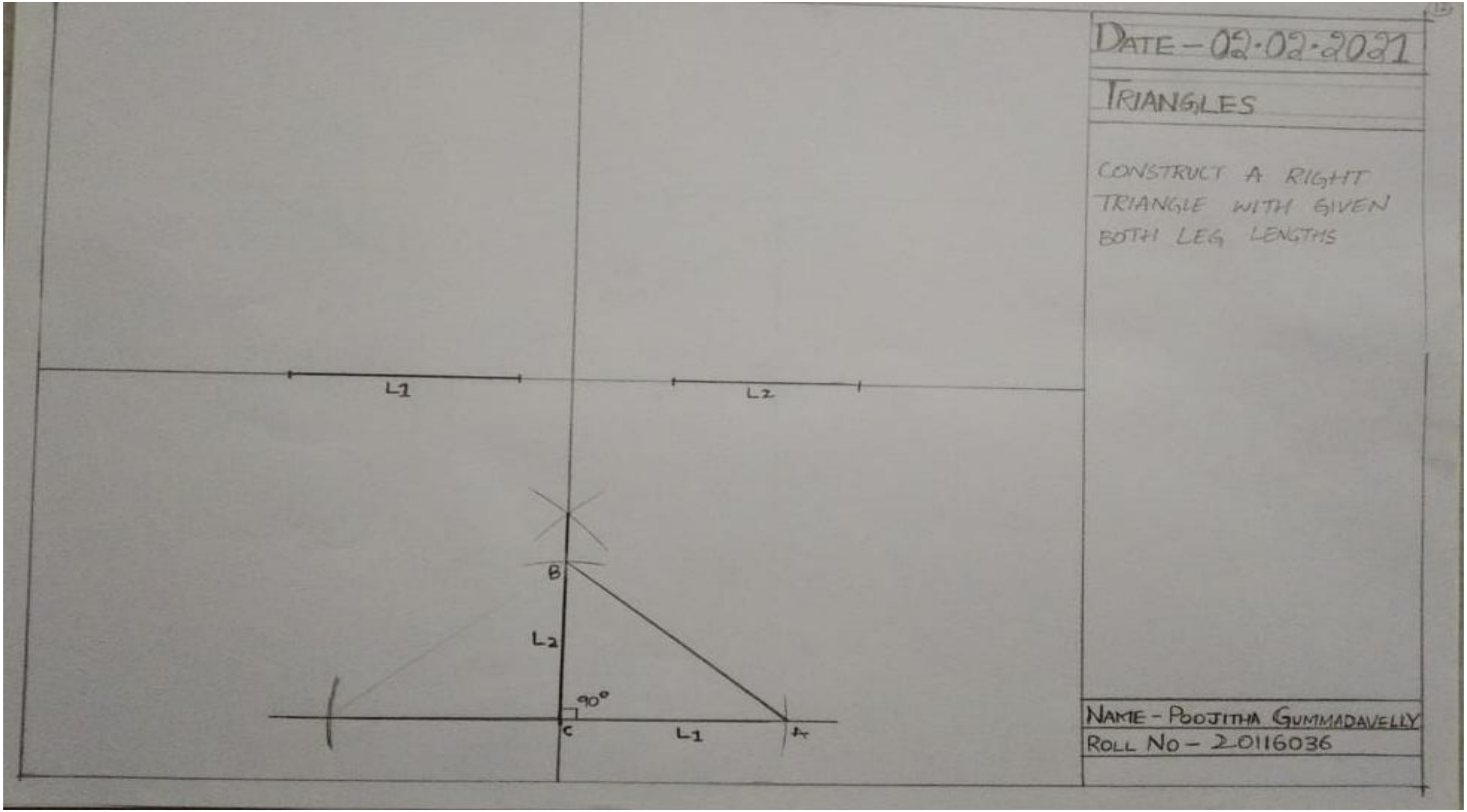

A
A
B
B
C
A
B
DATE - 02.02.2021
TRIANGLES
CONSTRUCT A TRIANGLE WITH GIVEN ONE SIDE AND ADJACENT ANGLES OR ASA
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036



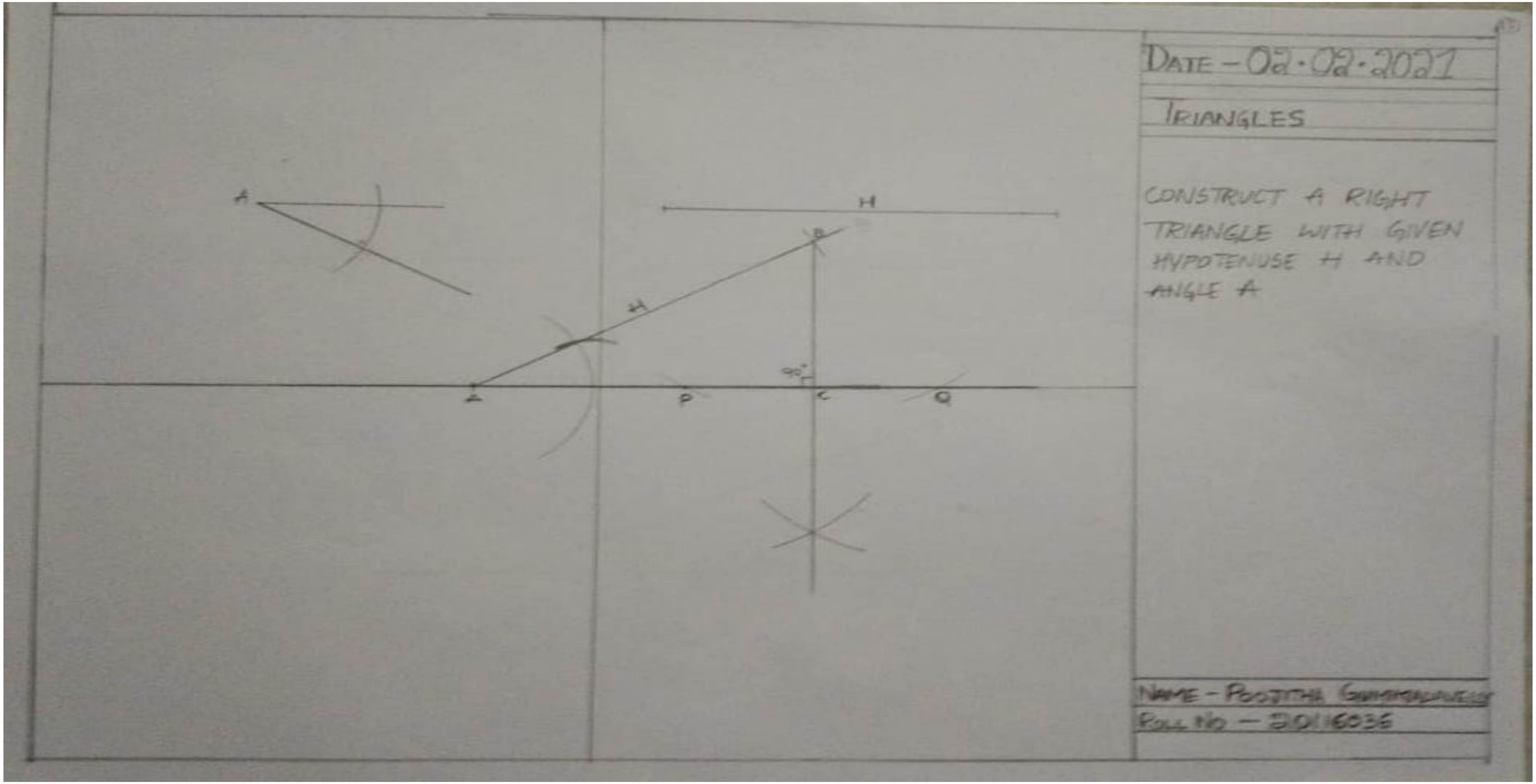
DATE – 02.02.2021
TRIANGLES
CONSTRUCT A TRIANGLE WITH GIVEN TWO ANGLES AND NON INCLUDED SIDE OR AAS
A
C
A
B
C
E
A
B
NAME – POOJITHA GUMMADAVELLY
ROLL NO – 20116036

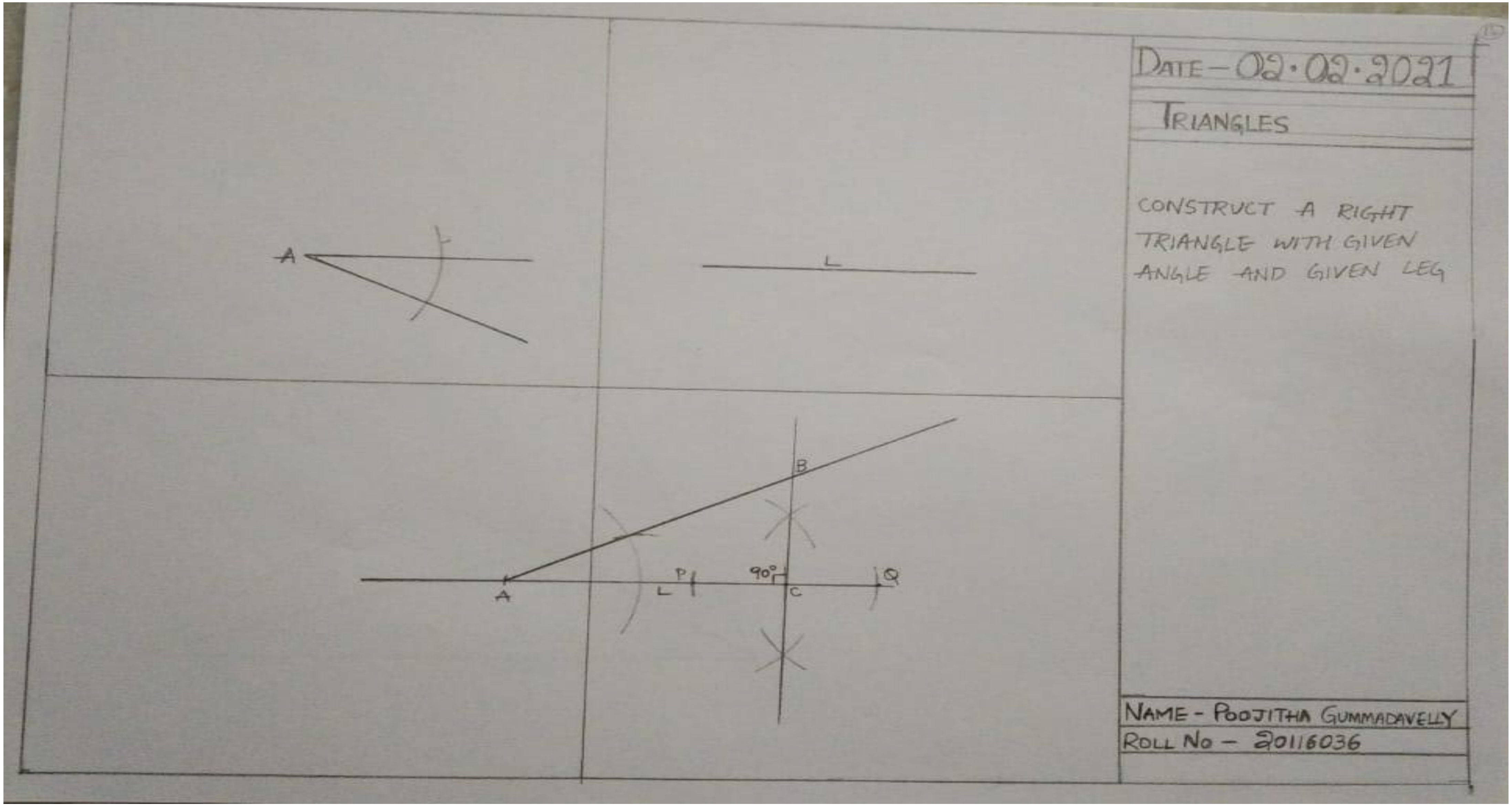

DATE - 02.02.2021
TRIANGLES
CONSTRUCT A TRIANGLE WITH GIVEN TWO SIDES AND INCLUDED ANGLE OR SAS
A
C
A
B
A
C
A
B
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036

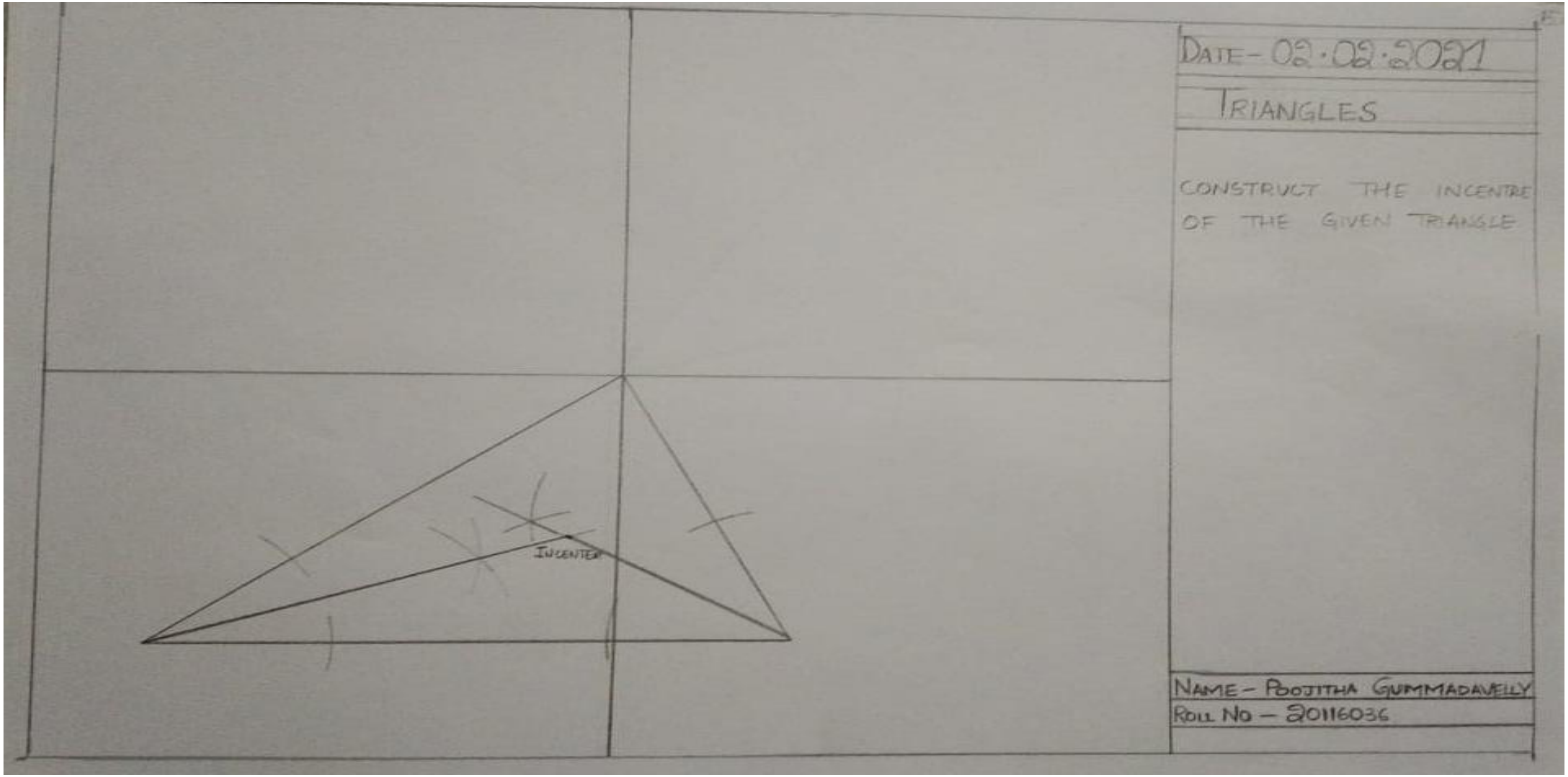

DATE - 02.02.2021
TRIANGLES
CONSTRUCT A RIGHT TRIANGLE WITH GIVEN ONE LEG AND HYPOTENUSE
L
H
B
H
90°
P
C
L
A
NAME - POOJITHA GUMMADAVELLY
ROLL No - 20116036

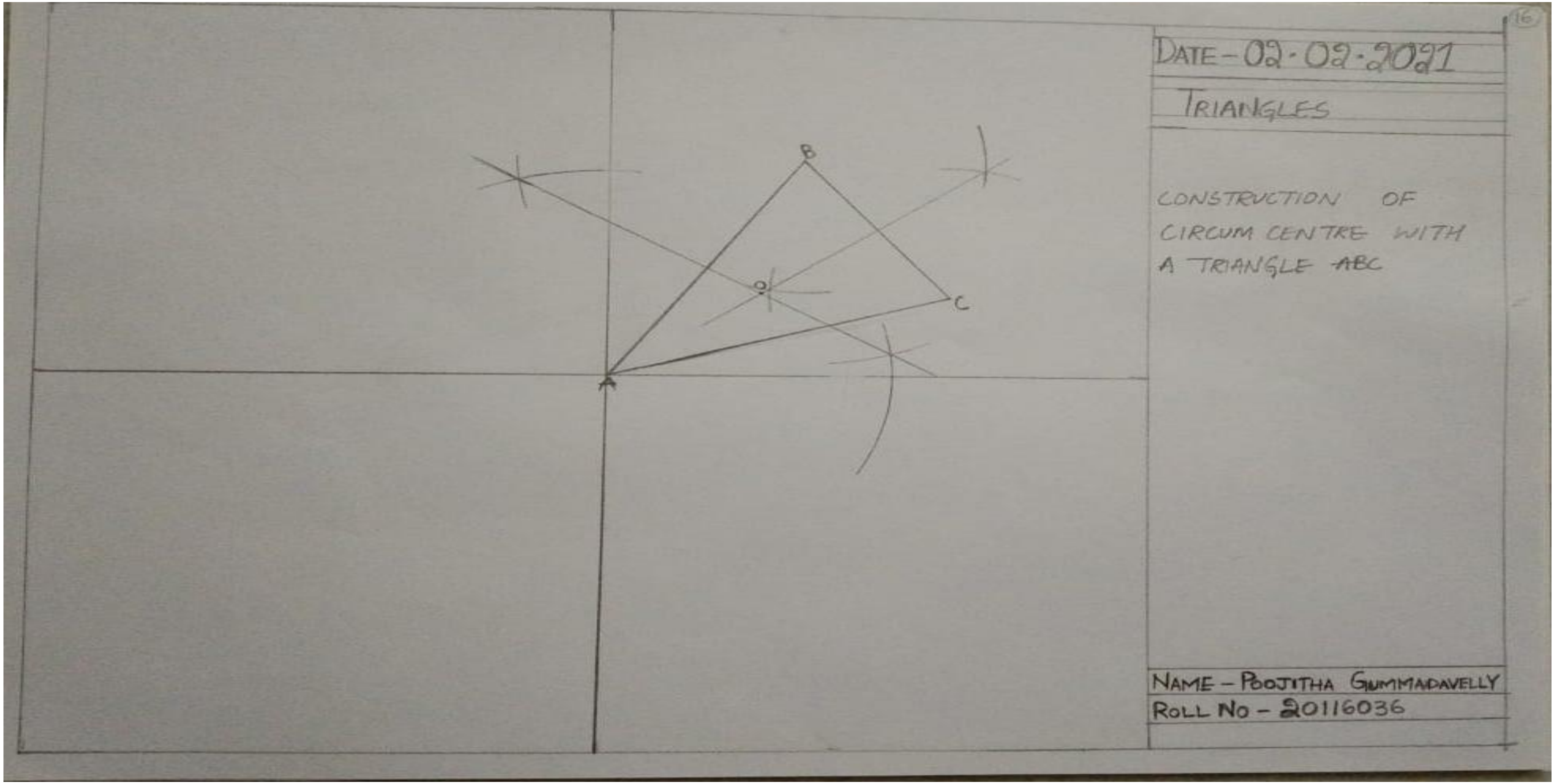


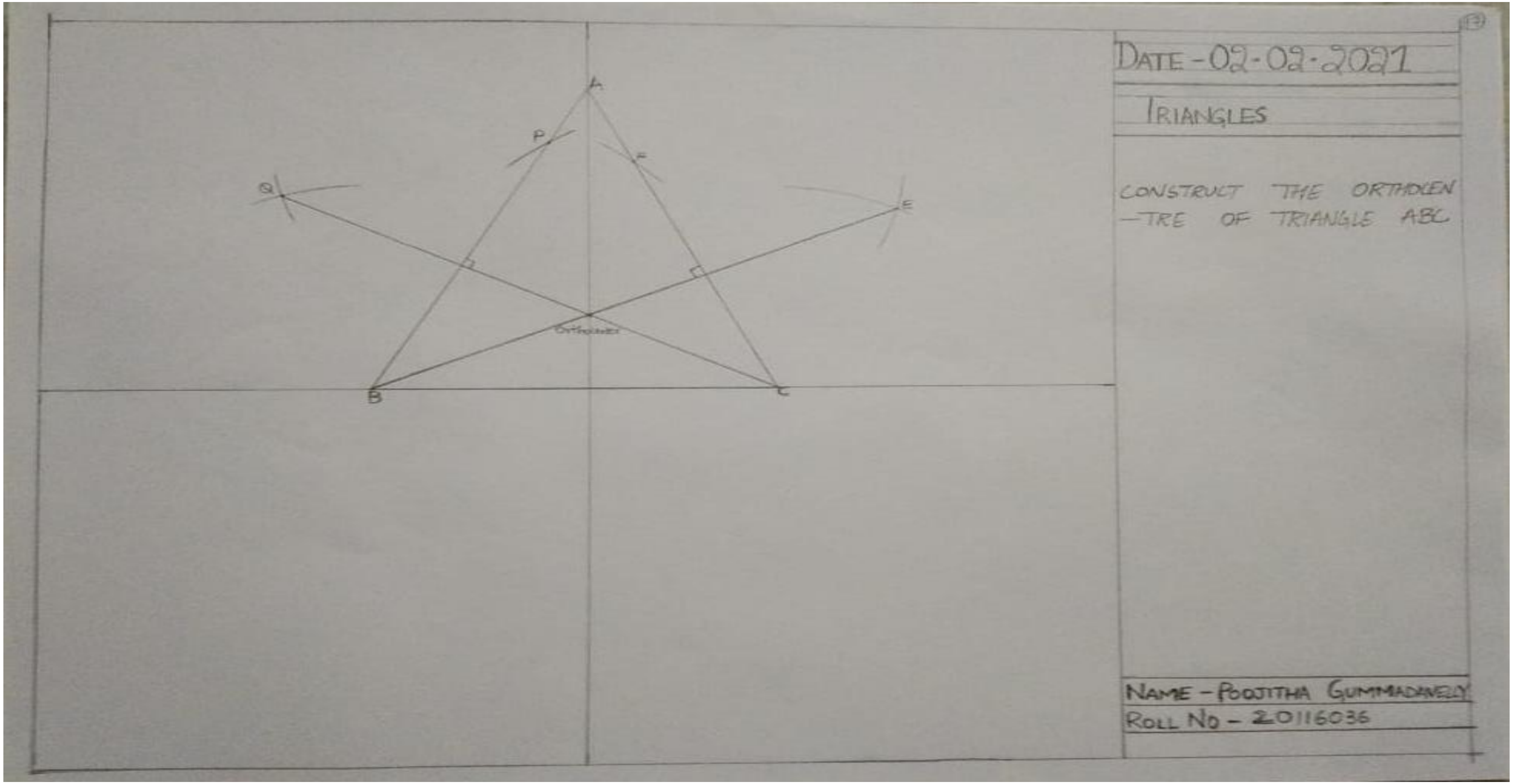
DATE – 02·02·2021
TRIANGLES
CONSTRUCT A RIGHT TRIANGLE WITH GIVEN BOTH LEG LENGTHS
L1
L2
B
L2
90°
C
L1
A
NAME – POOJITHA GUMMADAVELLY
ROLL NO – 20116036

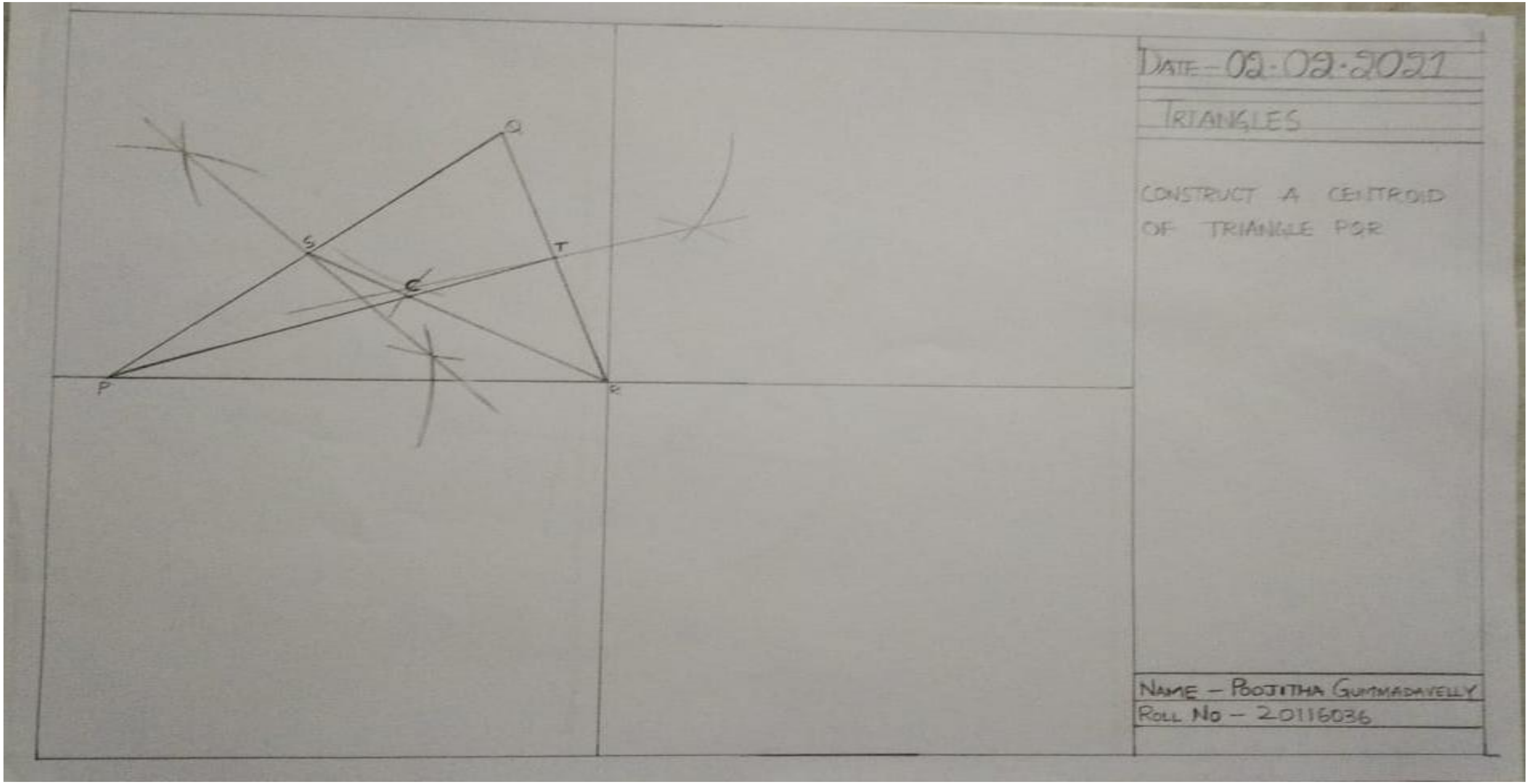

DATE - 02.02.2021
TRIANGLES
CONSTRUCT A RIGHT TRIANGLE WITH GIVEN HYPOTENUSE H AND ANGLE A
A
H
B
90°
A
P
C
Q
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036


DATE – 02·02·2021
TRIANGLES
CONSTRUCT A RIGHT TRIANGLE WITH GIVEN ANGLE AND GIVEN LEG
A
L
B
P
90°
Q
C
NAME - POOJITHA GUMMADAVELLY
ROLL NO – 20116036


DATE- 02.02.2021
TRIANGLES
CONSTRUCT THE INCENTRE OF THE GIVEN TRIANGLE
INCENTER
NAME- POOJITHA GUMMADAVELLY
ROLL NO - 20116036

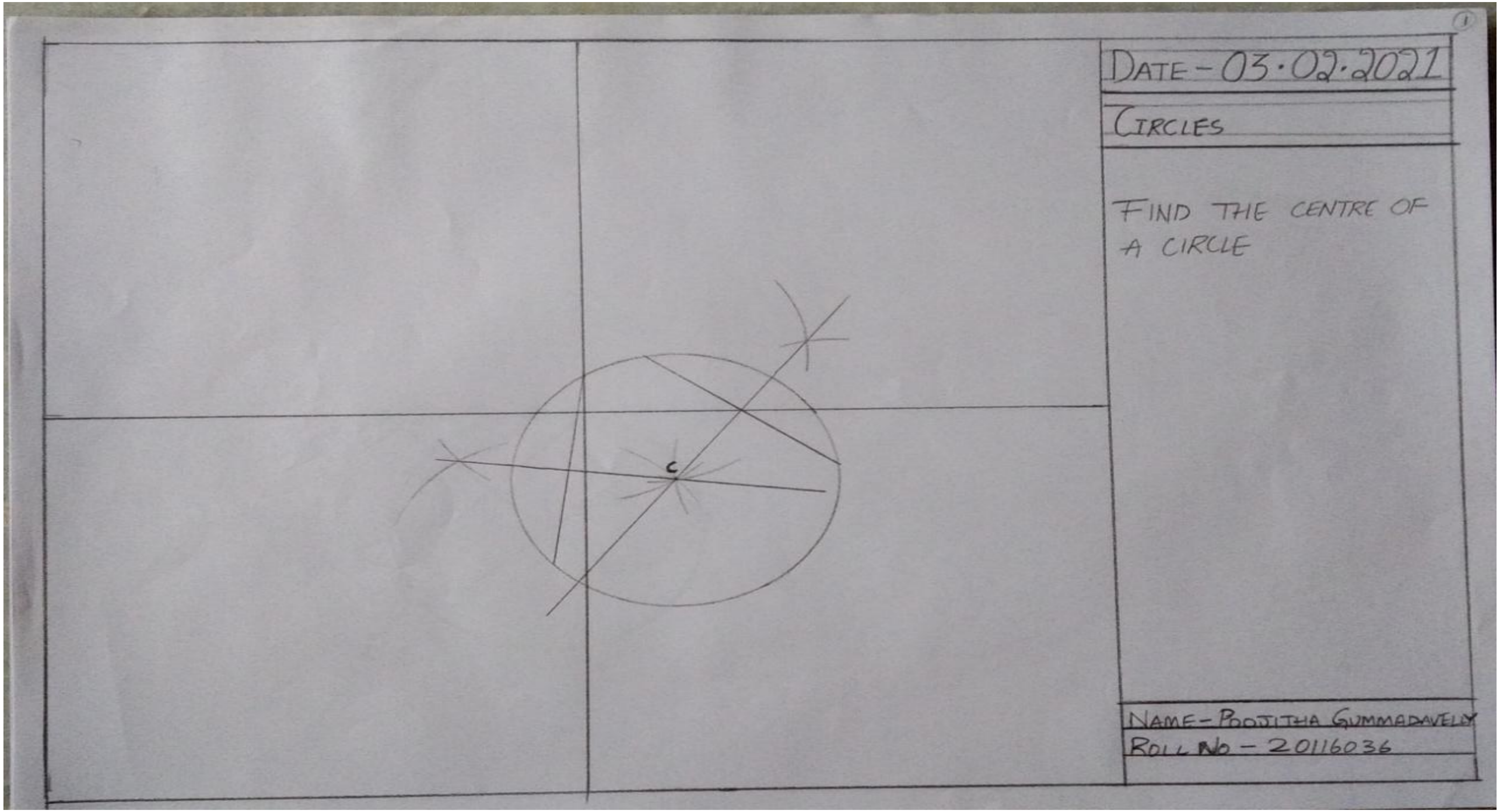

16
DATE - 02·02·2021
TRIANGLES
CONSTRUCTION OF CIRCUM CENTRE WITH A TRIANGLE ABC
B
O
C
A
NAME - POOJITHA GUMMADAVELLY
ROLL No - 20116036

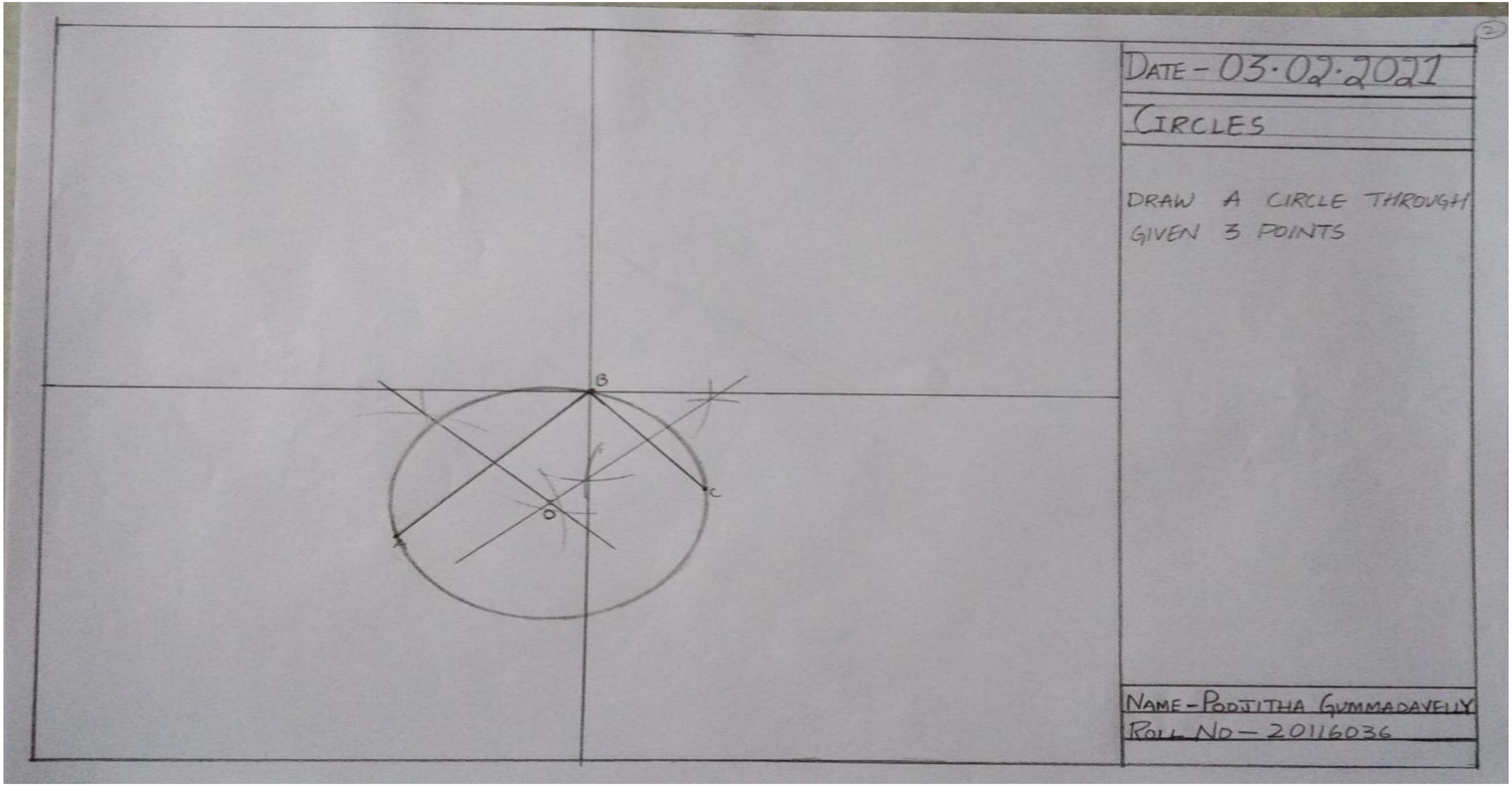

DATE - 02-02-2021
TRIANGLES
CONSTRUCT THE ORTHOCEN
-TRE OF TRIANGLE ABC
A
B
C
P
Q
F
E
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036

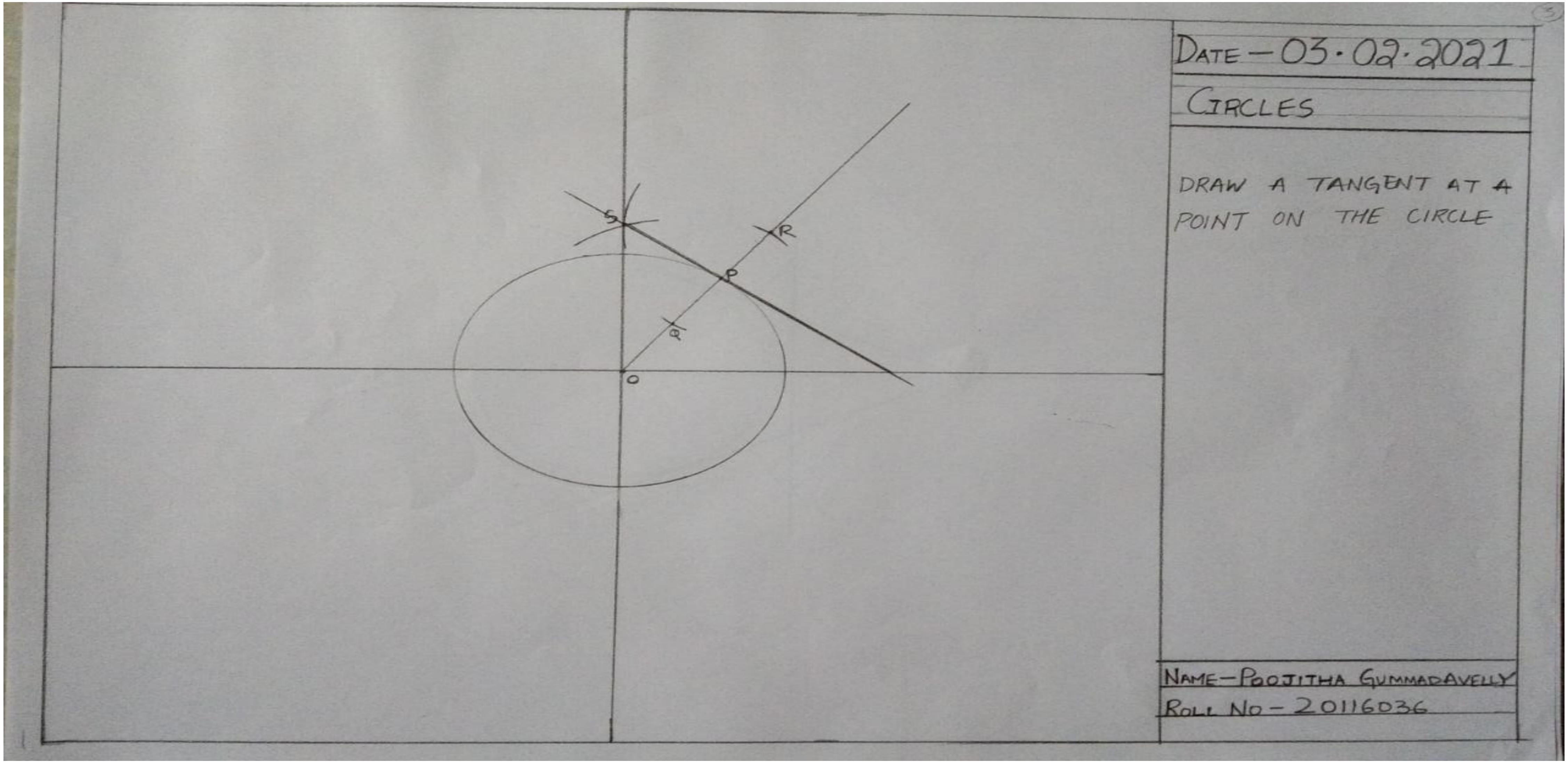

DATE - 02-02-2021
TRIANGLES
CONSTRUCT A CENTROID OF TRIANGLE PQR
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036
P
Q
R
S
T
C

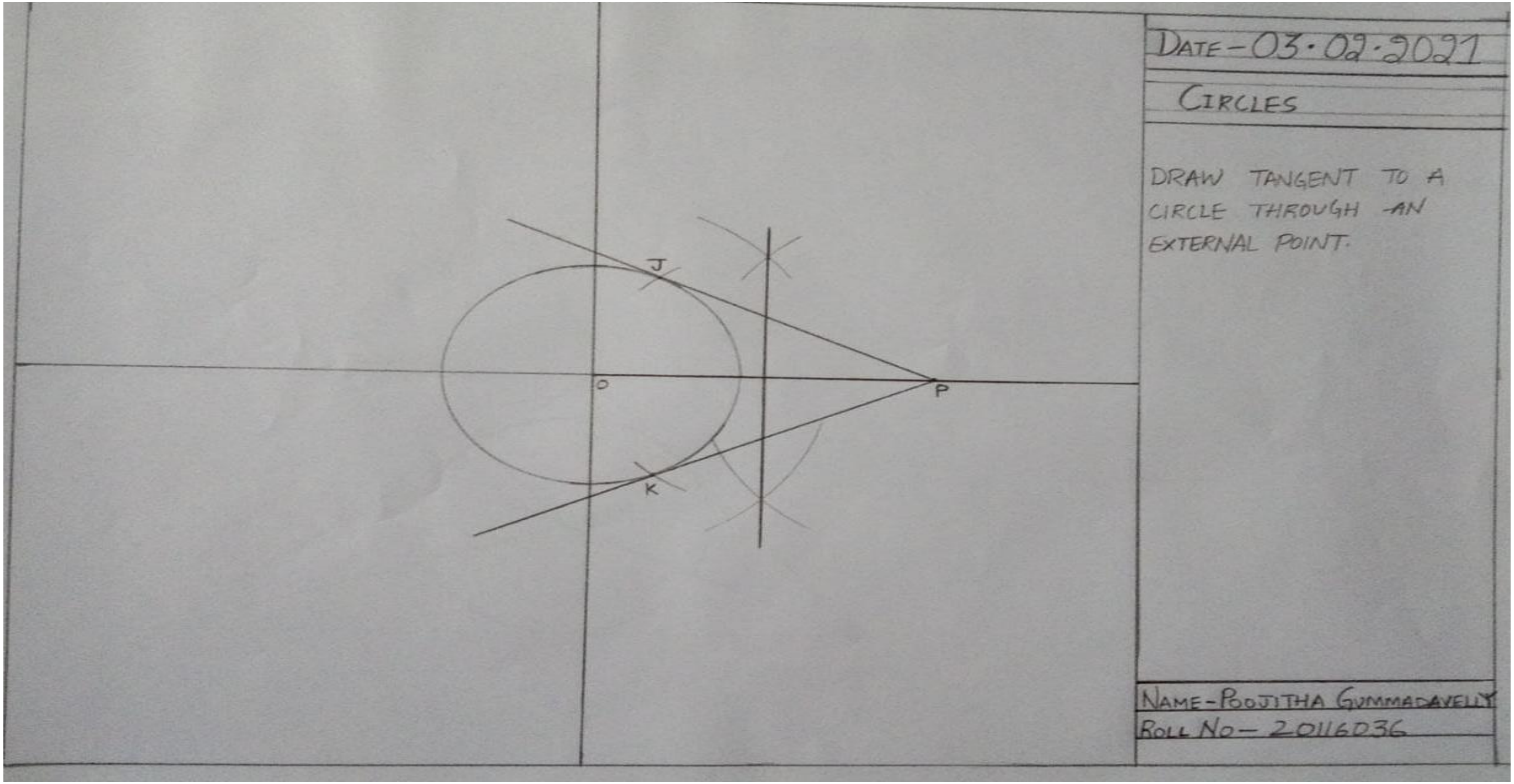
CIRCLES AND TANGENTS EXERCISE

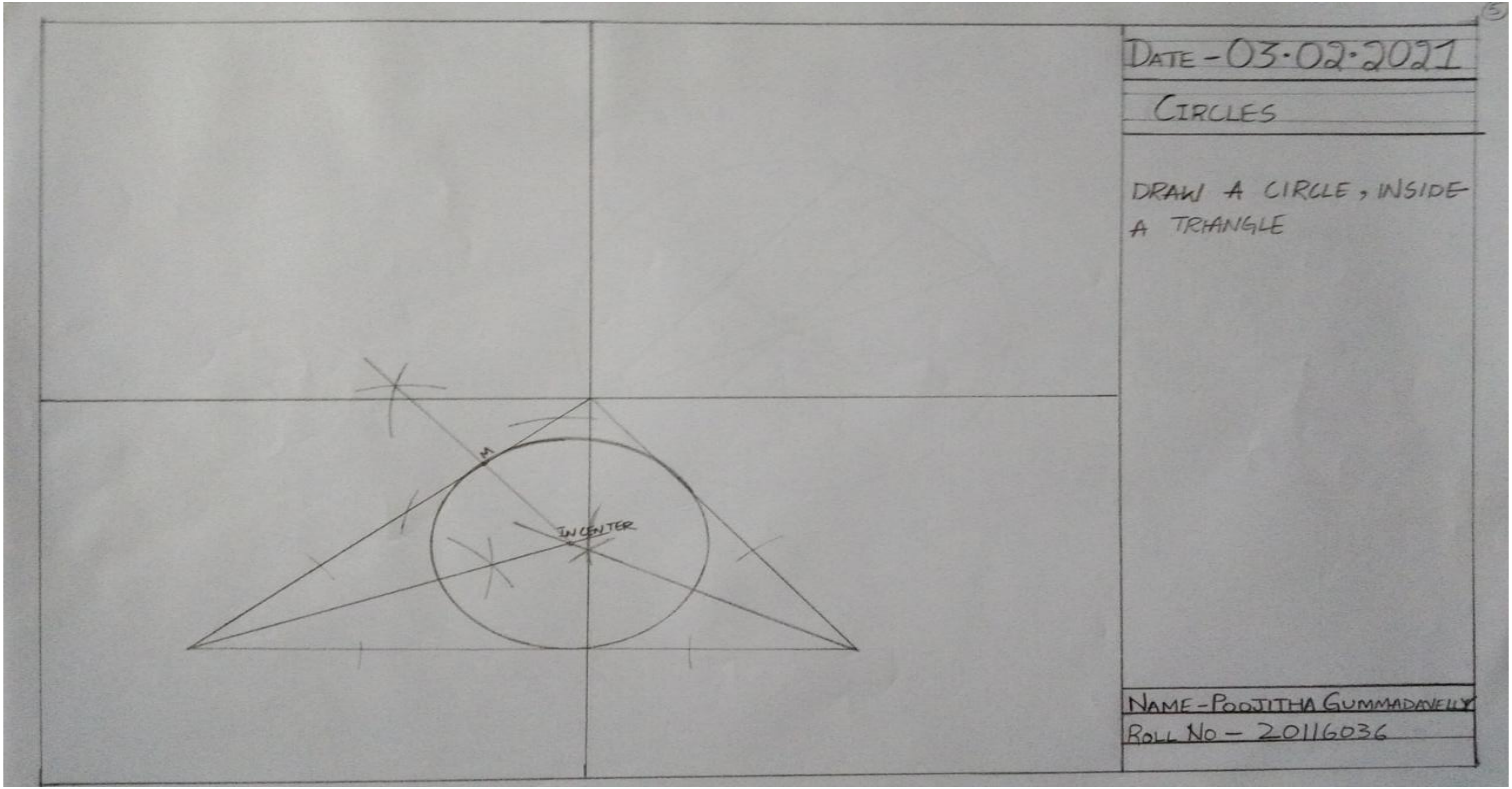
In this exercise, we get to find the Center and tangent of a given circle.
Also we get to know how to draw circle through various given points, tangent at a point on the circle,
tangent to a circle through an external point, drawing circle inside a triangle, drawing circum-circle of
a triangle.
And also we get to know ellipse through given focus through string method, and also finding focus for
a given ellipse

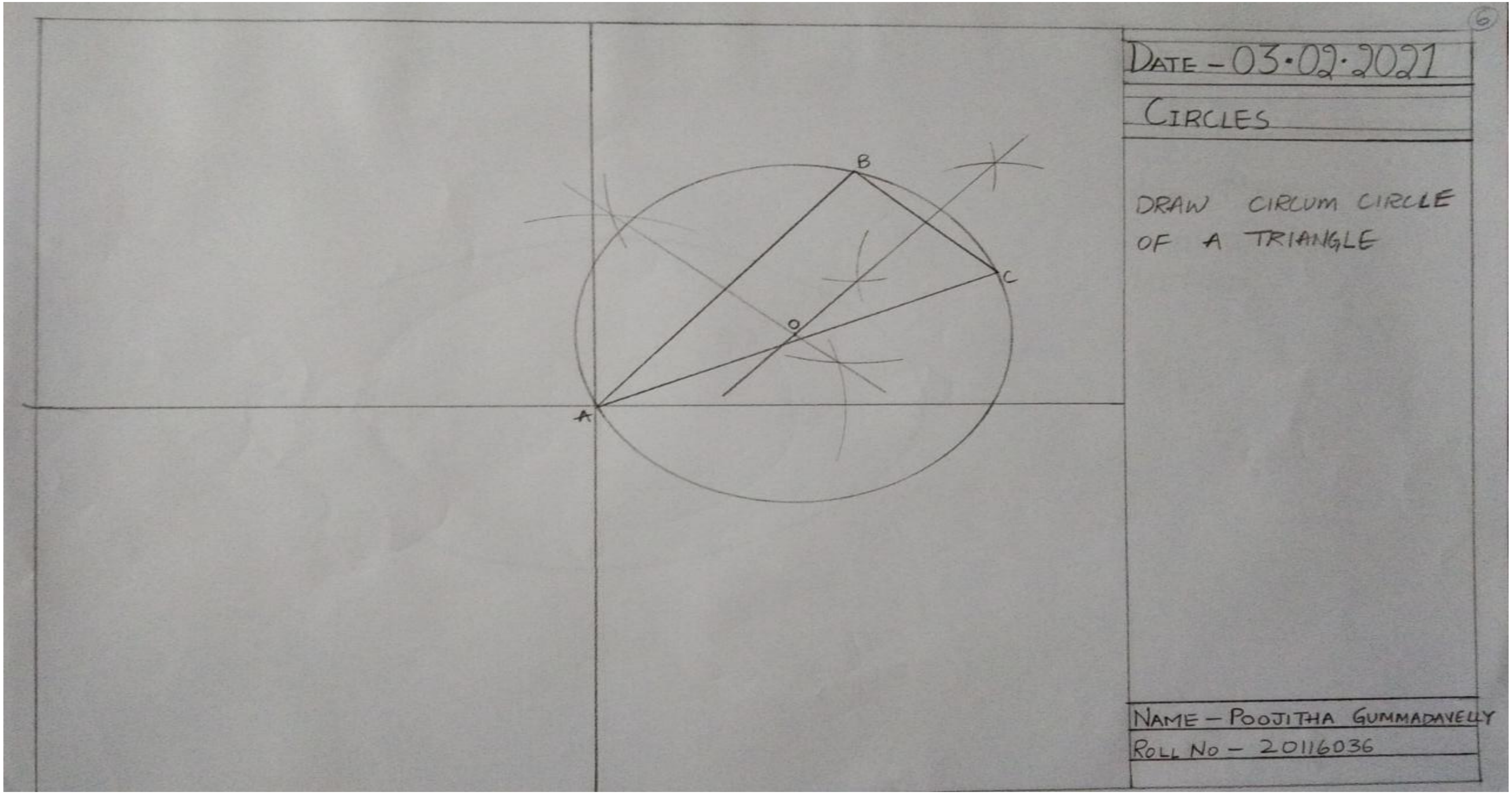

DATE - 03.02.2021
CIRCLES
FIND THE CENTRE OF A CIRCLE
C
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036

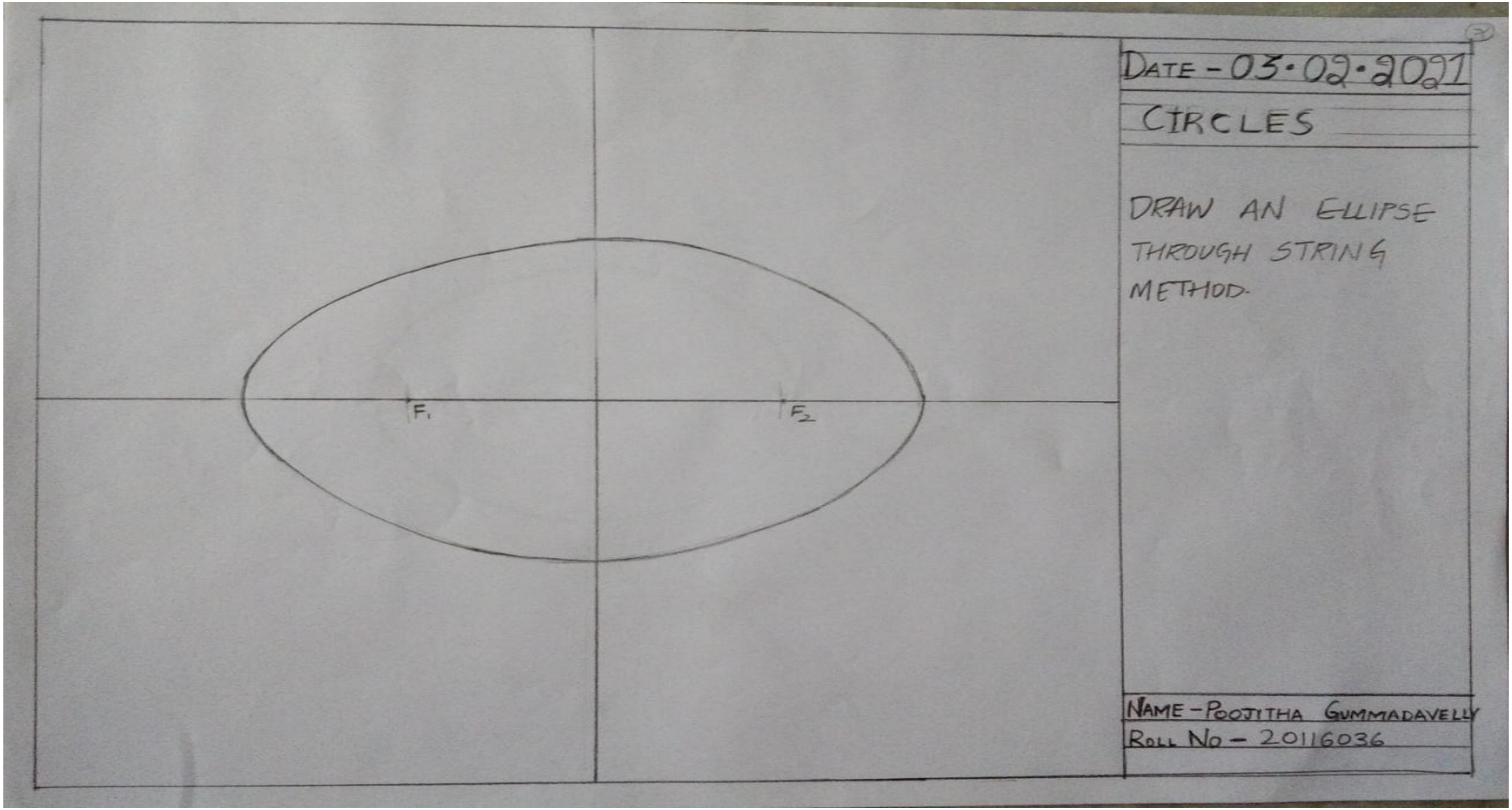

DATE - 03·02·2021
CIRCLES
DRAW A CIRCLE THROUGH GIVEN 3 POINTS
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036
B
C
A
O

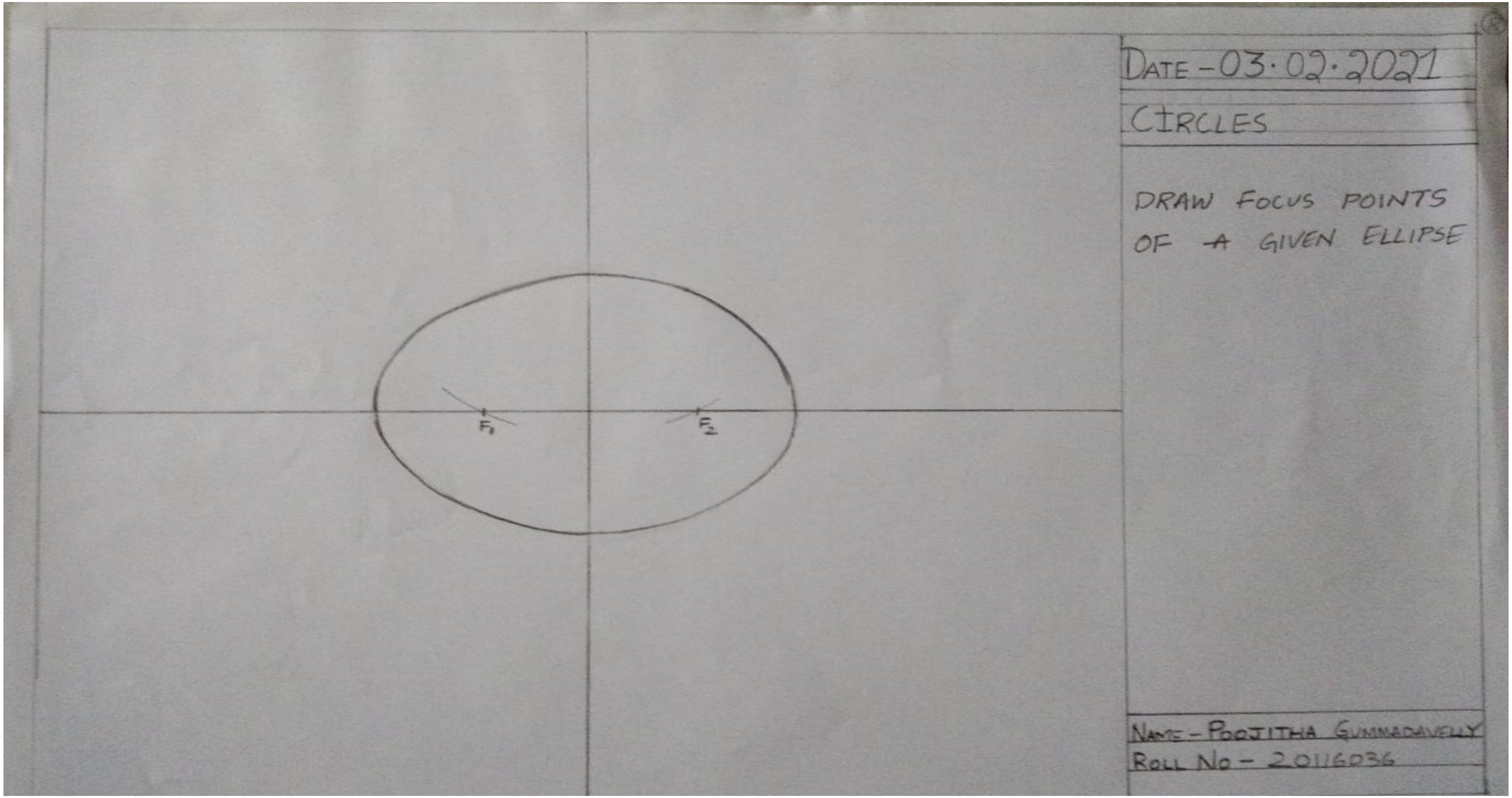

DATE – 03·02·2021
CIRCLES
DRAW A TANGENT AT A POINT ON THE CIRCLE
S
R
P
Q
O
NAME – POOJITHA GUMMADAVELLY
ROLL NO – 20116036


DATE-03.02.2021
CIRCLES
DRAW TANGENT TO A CIRCLE THROUGH AN EXTERNAL POINT.
J
O
P
K
NAME-POOJITHA GUMMADAVELLY
ROLL NO- 20116036


DATE - 03·02·2021
CIRCLES
DRAW A CIRCLE, INSIDE A TRIANGLE
M
INCENTER
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036

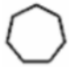
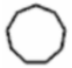

6
DATE – 03·02·2021
CIRCLES
DRAW CIRCUM CIRCLE OF A TRIANGLE
B
C
O
A
NAME – POOJITHA GUMMADAVELLY
ROLL NO – 20116036

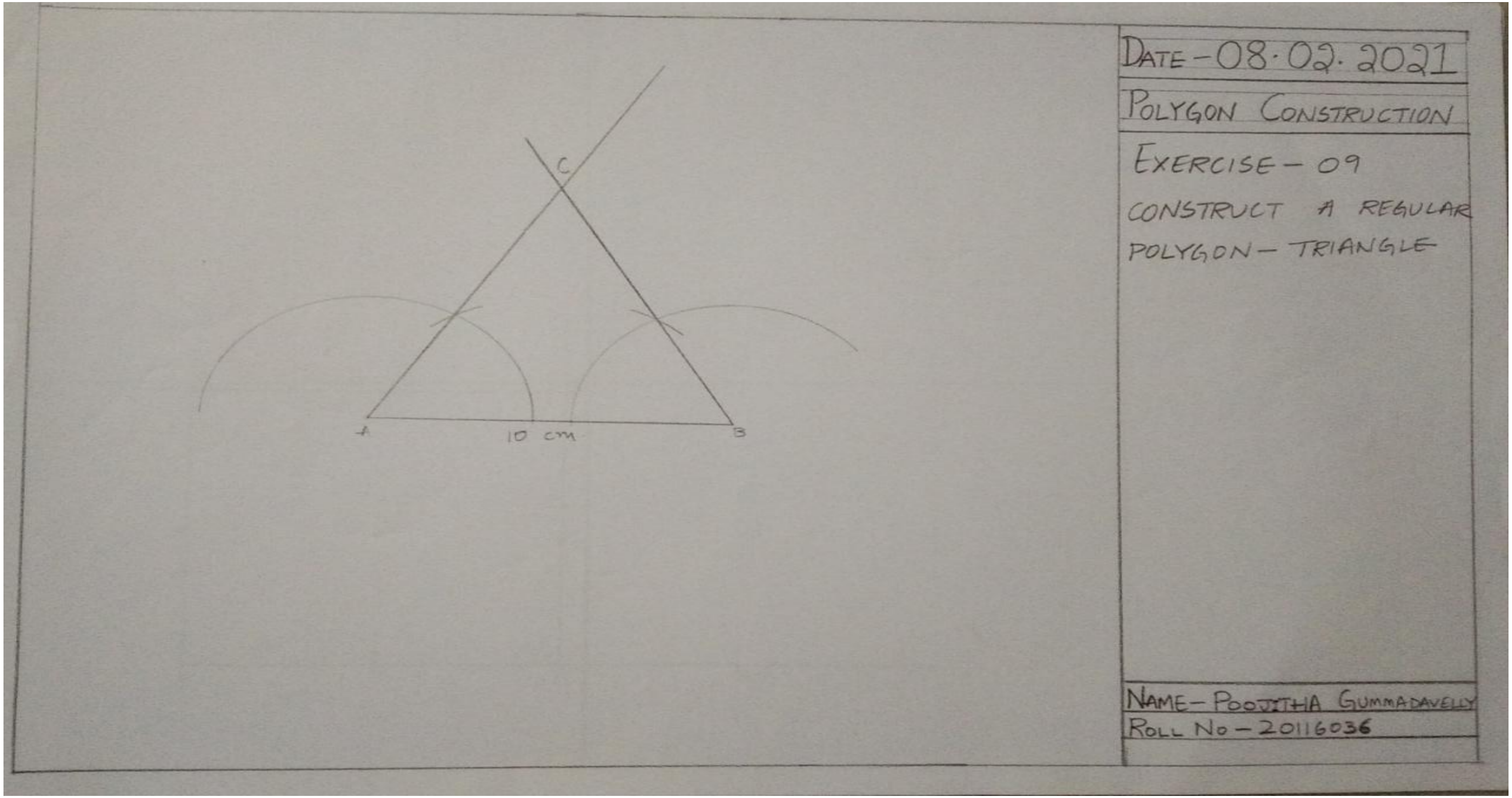

DATE - 03·02·2021
CIRCLES
DRAW AN ELLIPSE THROUGH STRING METHOD.
F1
F2
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036

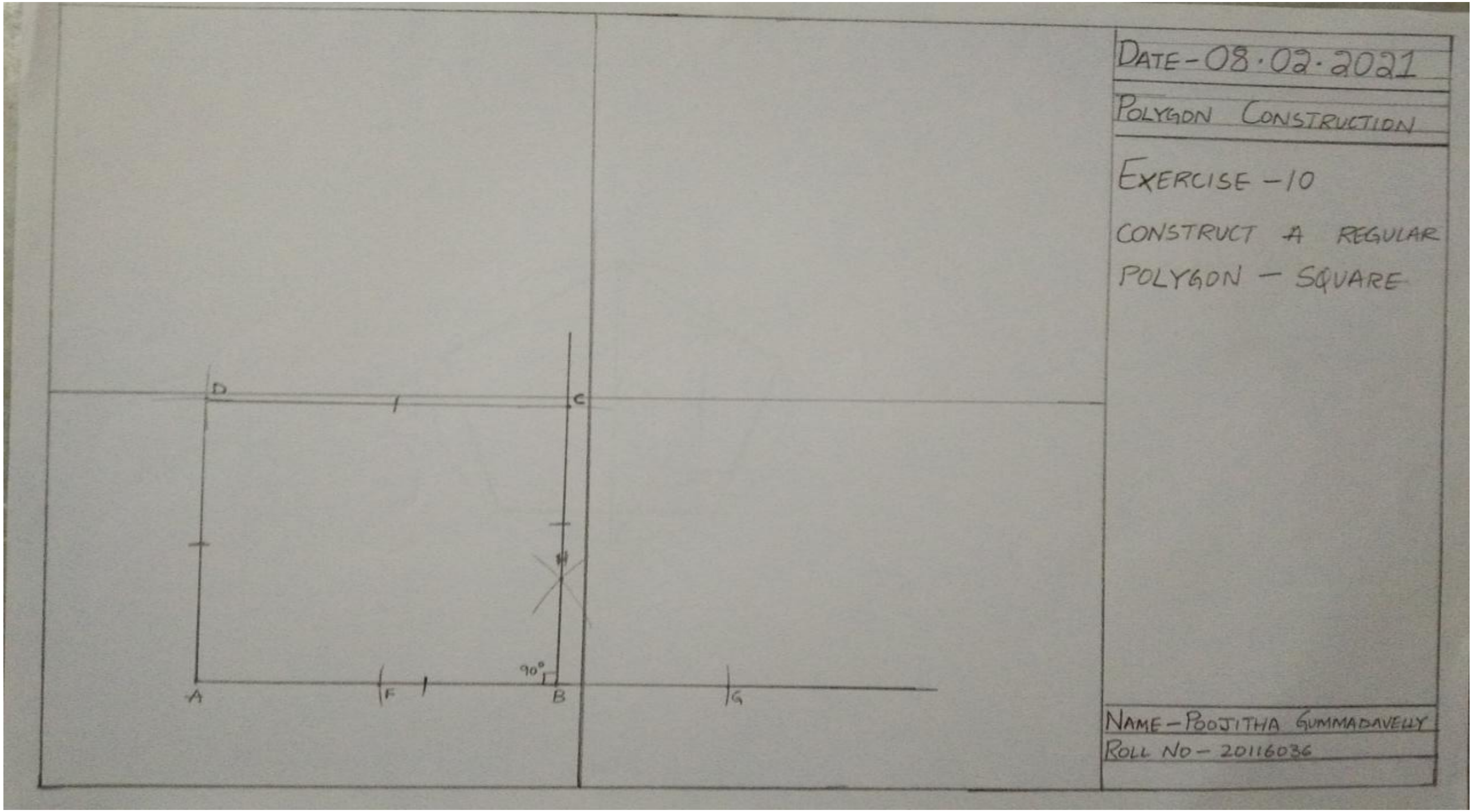

DATE - 03.02.2021
CIRCLES
DRAW FOCUS POINTS OF A GIVEN ELLIPSE
F1
F2
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036

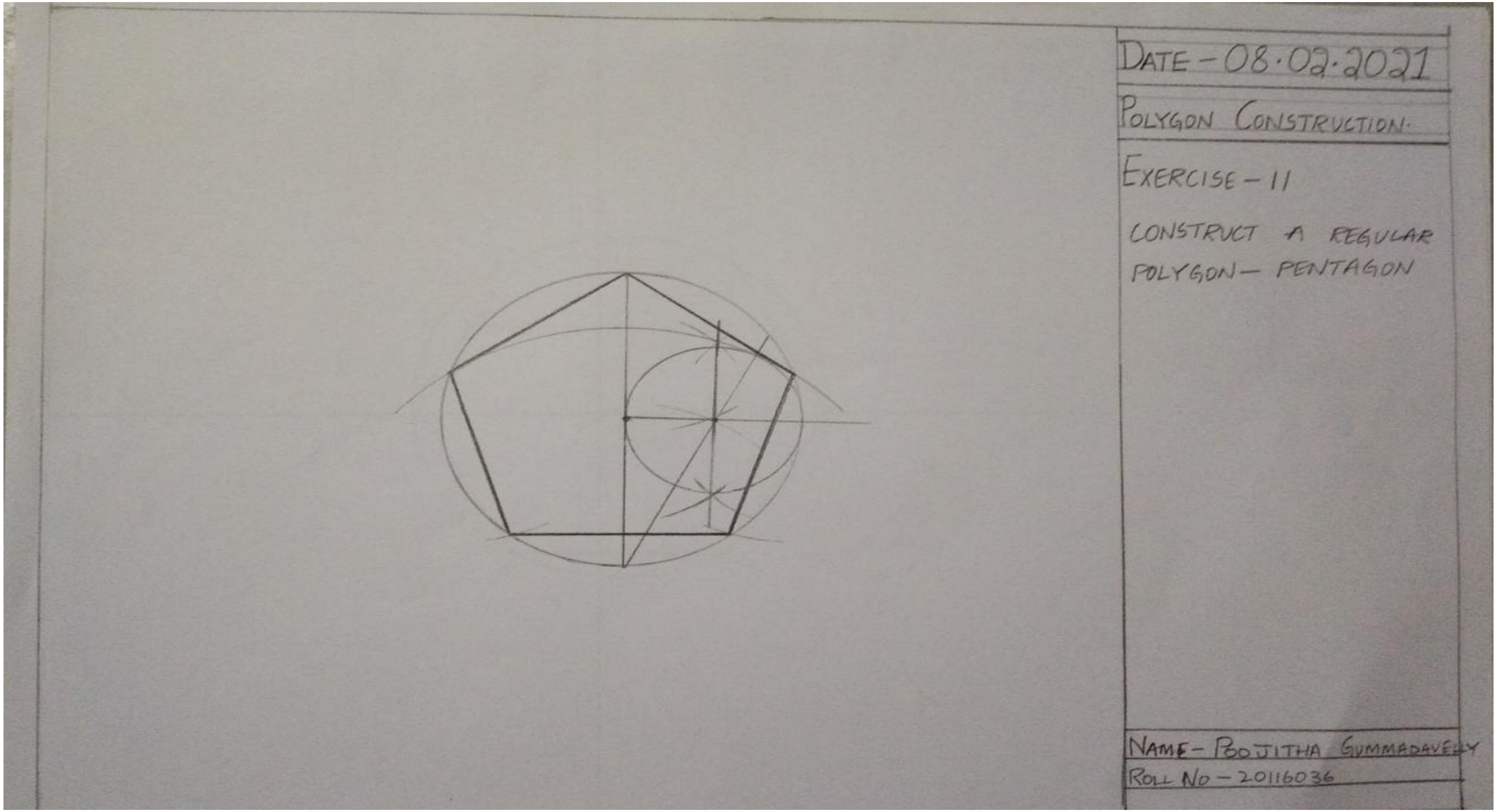
EQUILATERAL POLYGONS

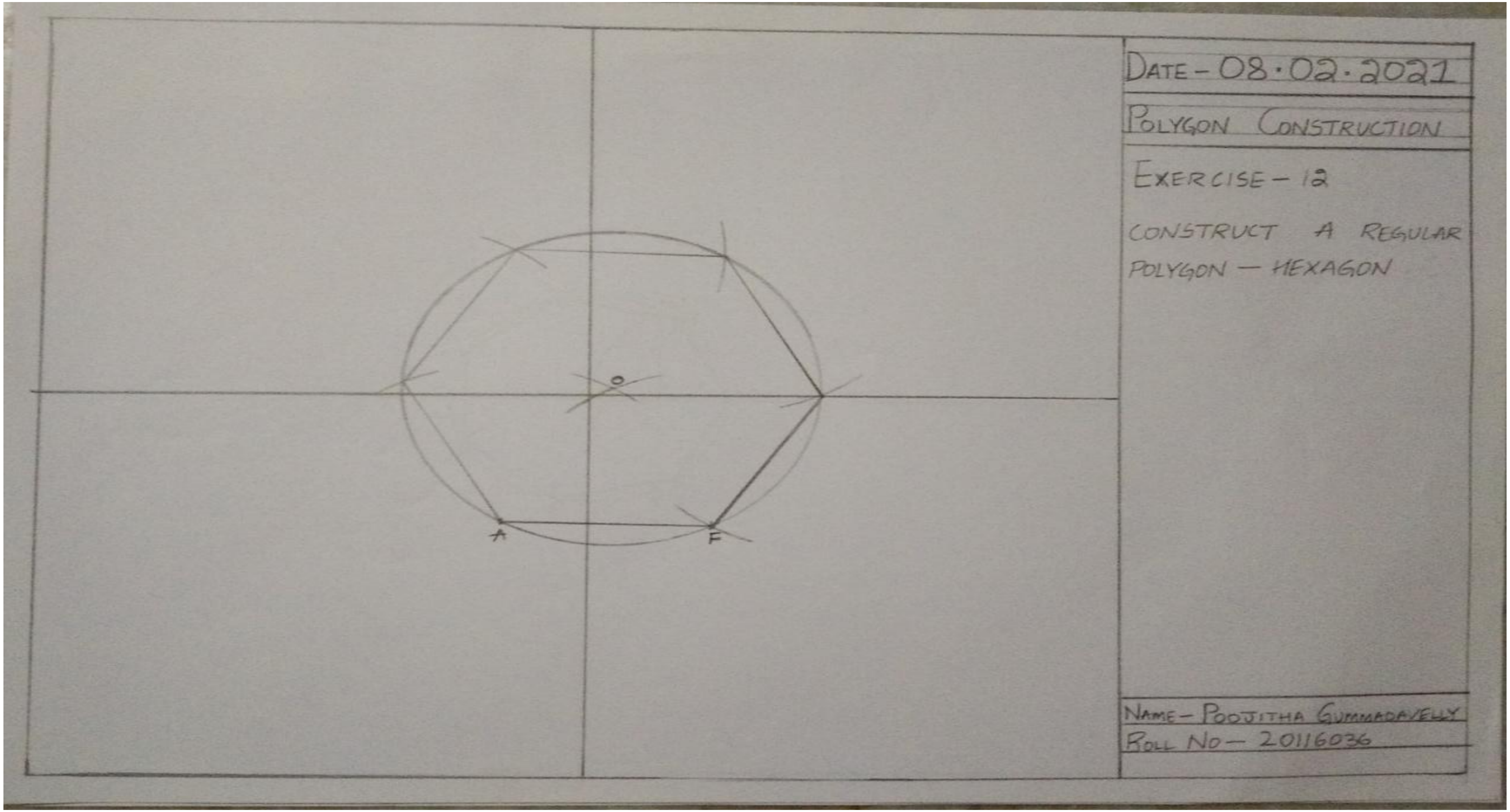
A polygon with all its sides equal is called an Equilateral Polygon. Regular Polygons are always convex by definition. If all angles are equal and all sides are equal, then it is a regular polygon. A polygon that does not have all sides and angles are equal, is called irregular polygon

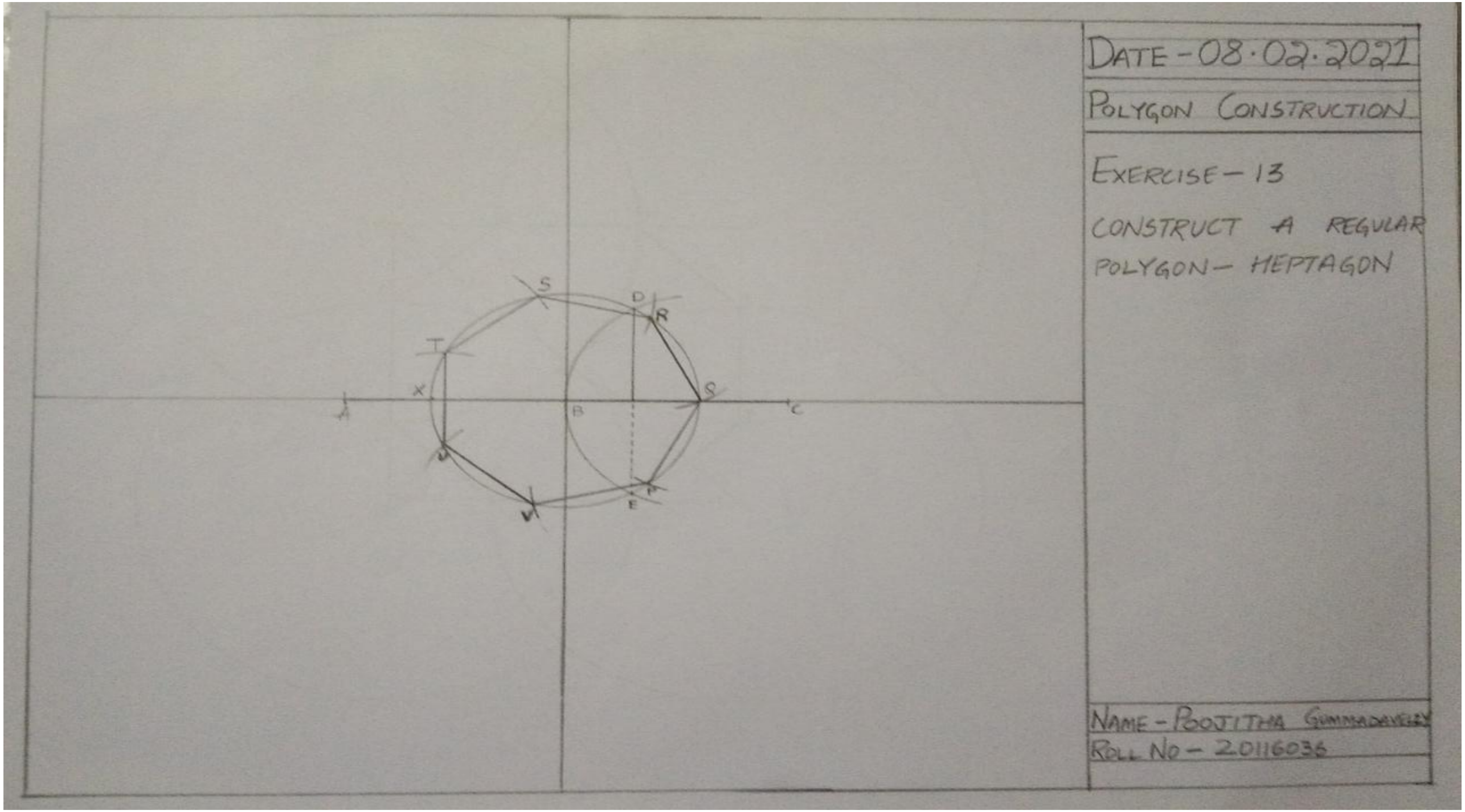
Name	No. of Sides	Shape	Interior Angle
Triangle or Trigon	3		60°
Square or Tetragon or Quadrilateral	4		90°
Pentagon	5		108°
Hexagon	6		120°
Heptagon or Septagon	7		128.57°
Octagon	8		135°
Nonagon or Enneagon	9		140°
Decagon	10		144°

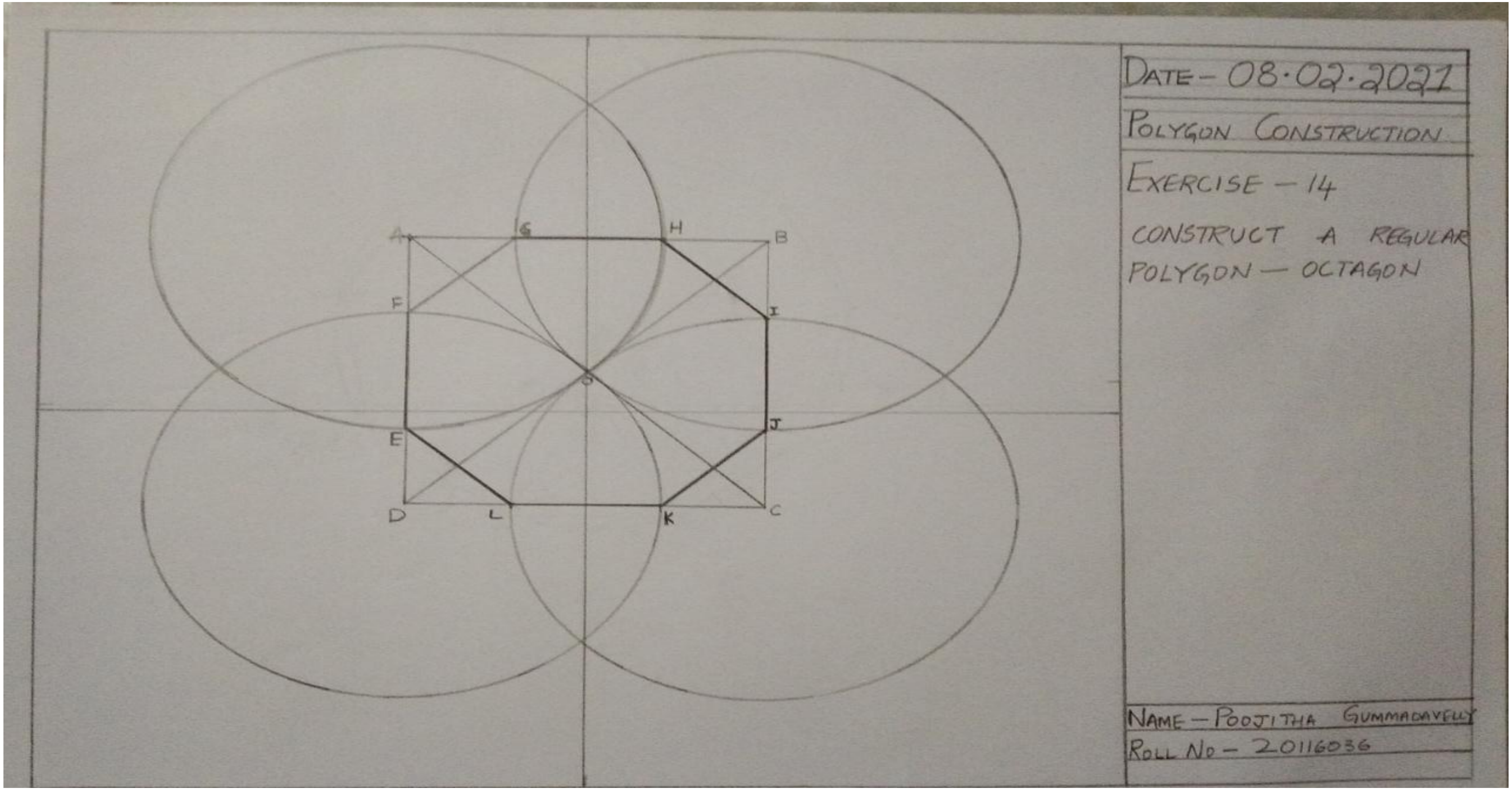

DATE - 08.02.2021
POLYGON CONSTRUCTION
EXERCISE - 09
CONSTRUCT A REGULAR POLYGON - TRIANGLE
C
A
10 cm
B
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036

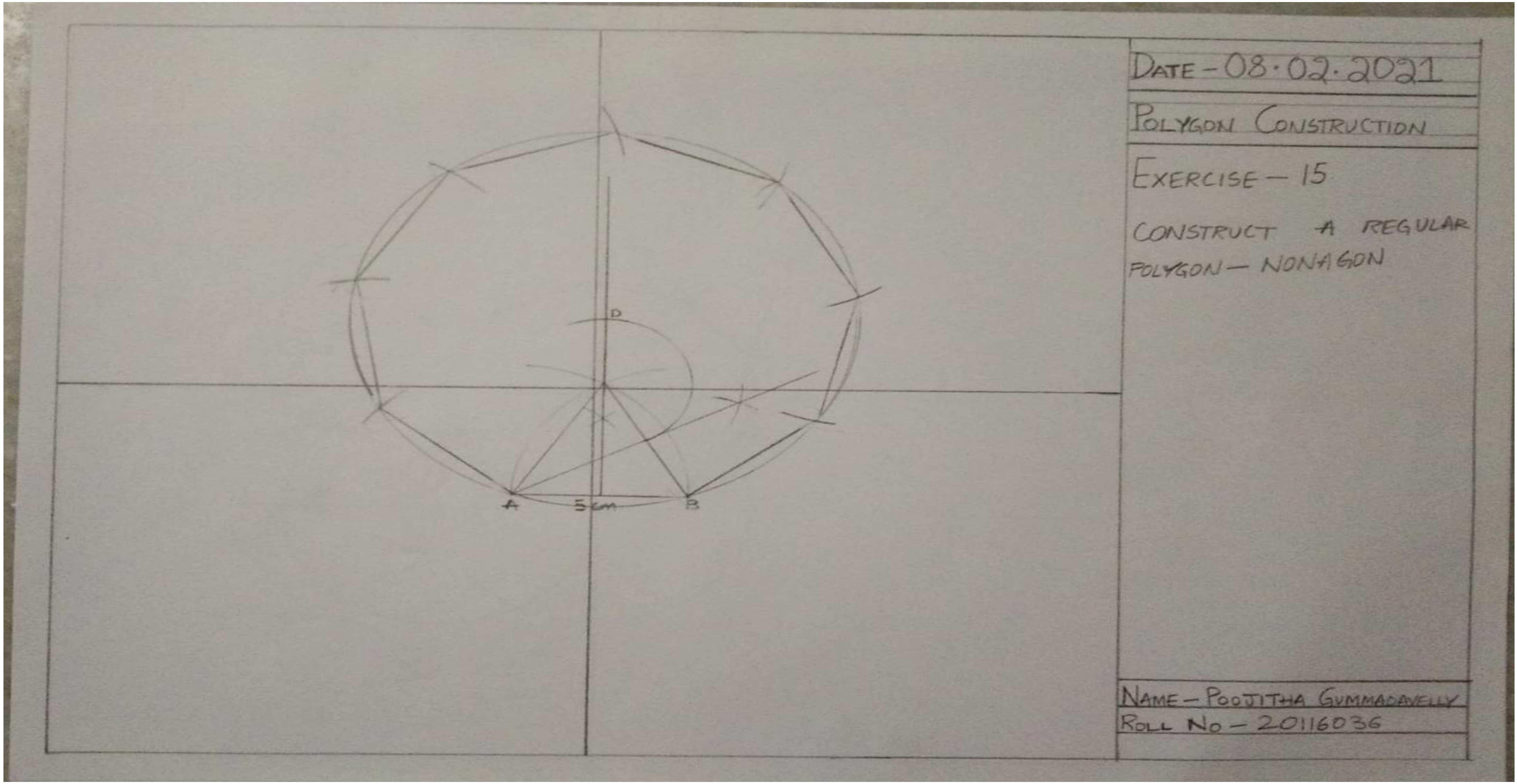

DATE-08.02.2021
POLYGON CONSTRUCTION
EXERCISE -10
CONSTRUCT A REGULAR POLYGON - SQUARE
NAME-POOJITHA GUMMADAVELLY
ROLL NO- 20116036
D
C
A
F
B
G
90°

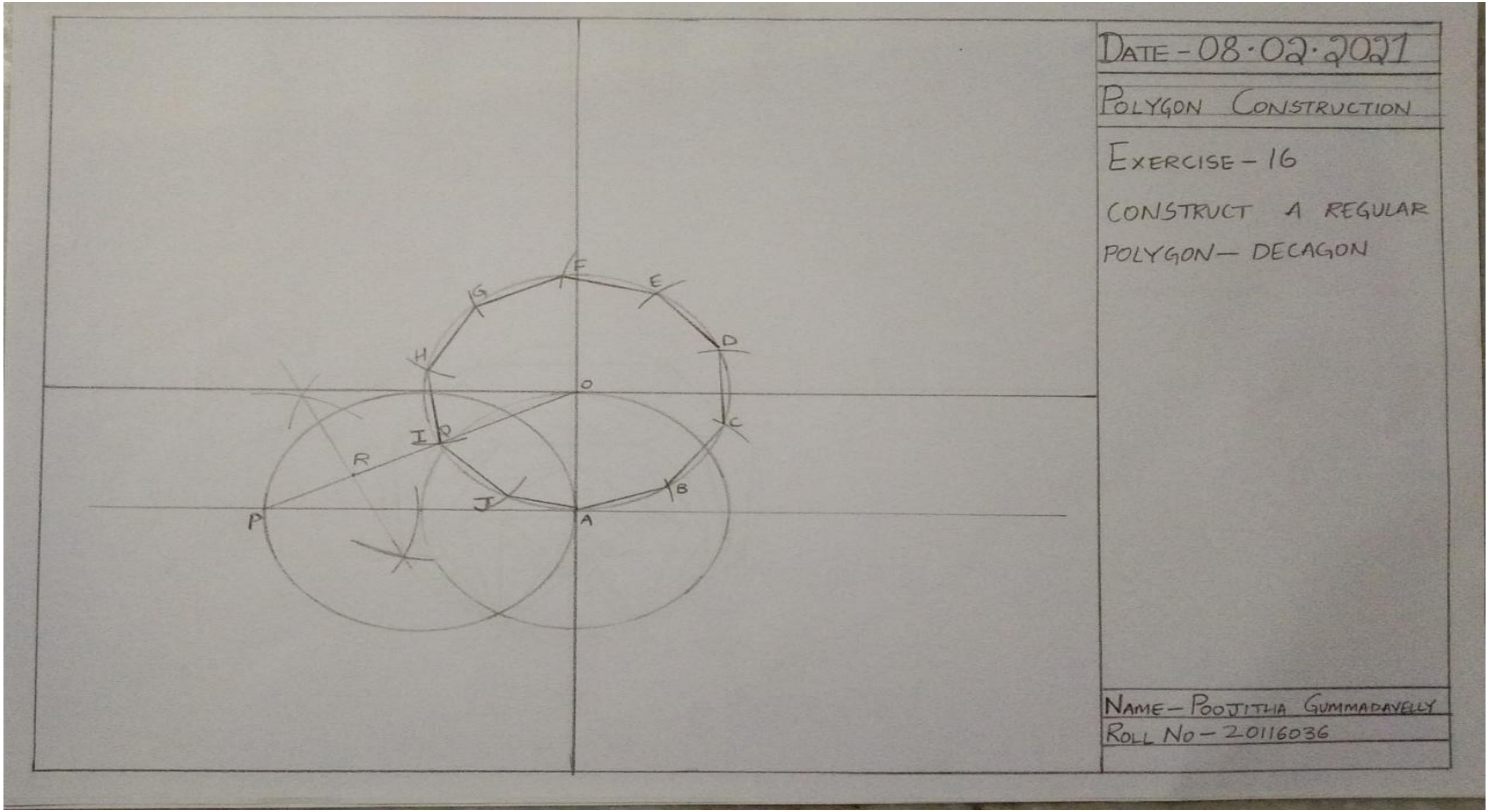

DATE - 08.02.2021
POLYGON CONSTRUCTION.
EXERCISE - 11
CONSTRUCT A REGULAR POLYGON - PENTAGON
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036

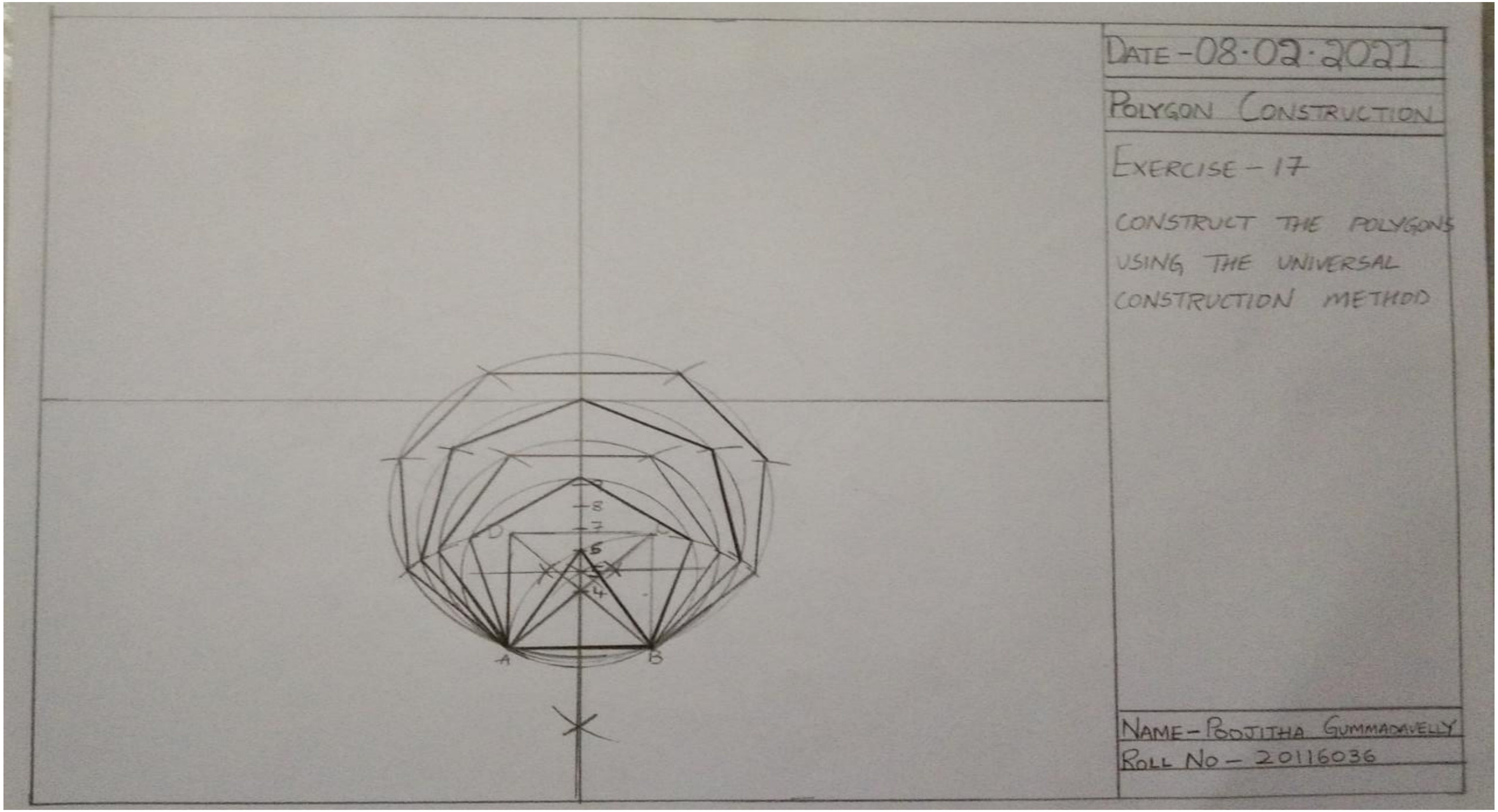

DATE - 08.02.2021
POLYGON CONSTRUCTION
EXERCISE - 12
CONSTRUCT A REGULAR POLYGON - HEXAGON
O
A
F
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036


DATE - 08.02.2021
POLYGON CONSTRUCTION
EXERCISE - 13
CONSTRUCT A REGULAR POLYGON - HEPTAGON
S
D
R
T
X
A
B
C
V
W
E
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036


DATE – 08·02·2021
POLYGON CONSTRUCTION
EXERCISE – 14
CONSTRUCT A REGULAR POLYGON — OCTAGON
NAME – POOJITHA GUMMADAVELLY
ROLL NO – 20116036
A
G
H
B
F
I
E
J
D
L
K
C

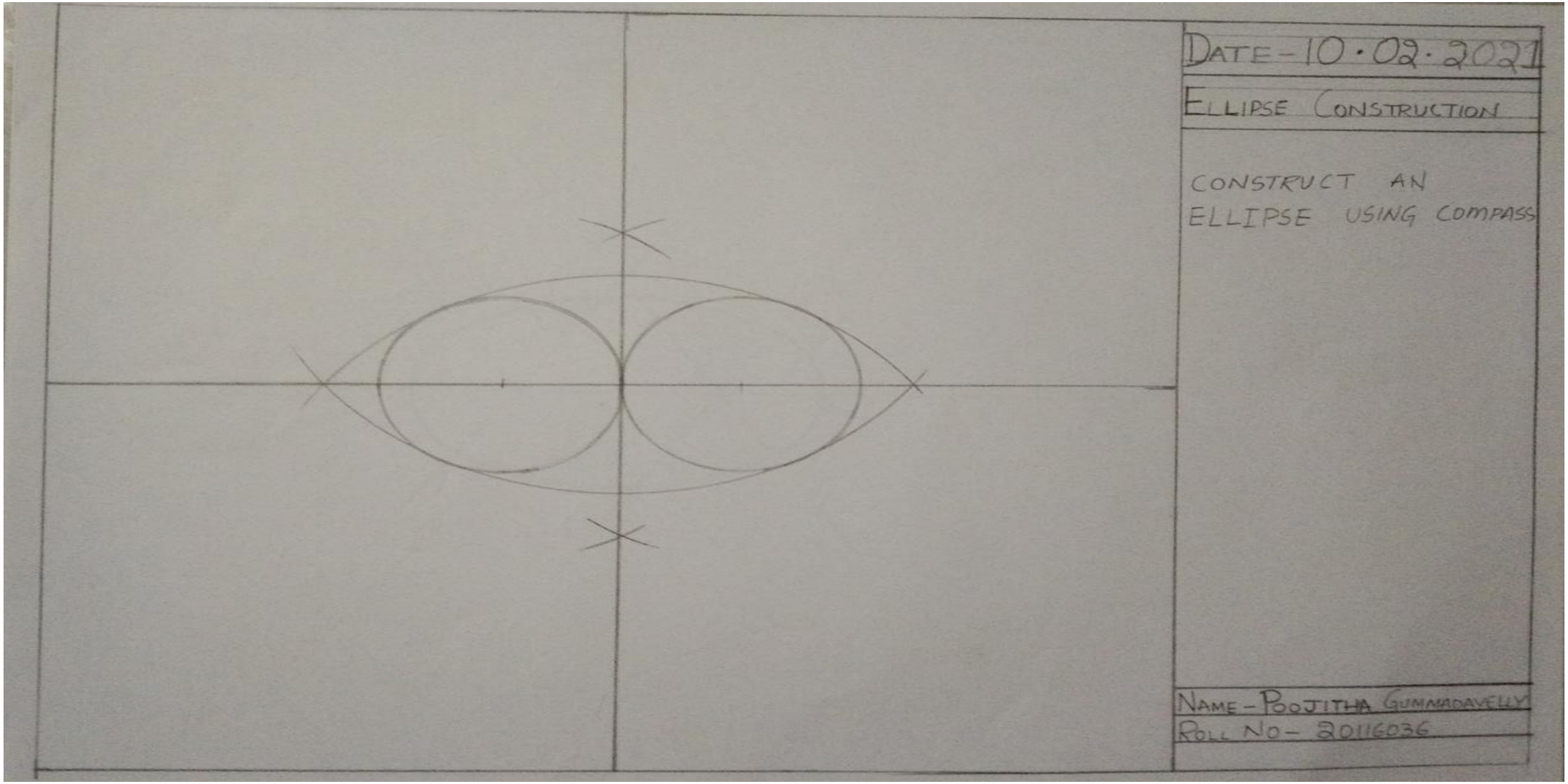

DATE - 08·02·2021
POLYGON CONSTRUCTION
EXERCISE — 15
CONSTRUCT A REGULAR POLYGON — NONAGON
NAME — POOJITHA GUMMADAVELLY
ROLL NO — 20116036
D
A
5cm
B

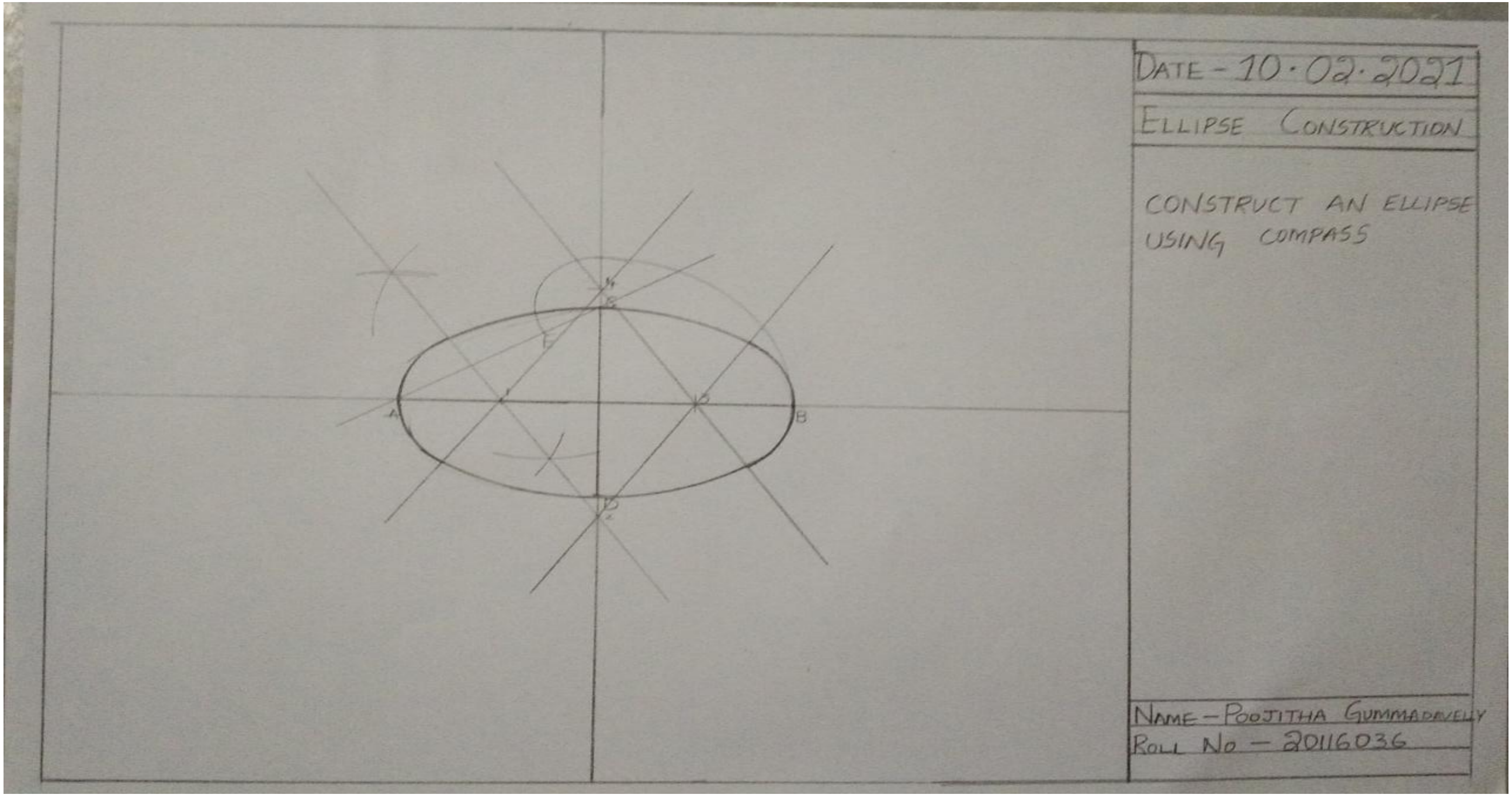

DATE - 08·02·2021
POLYGON CONSTRUCTION
EXERCISE - 16
CONSTRUCT A REGULAR POLYGON— DECAGON
NAME— POOJITHA GUMMADAVELLY
ROLL NO— 20116036
F
E
G
D
H
O
C
I
R
B
J
P
A


DATE-08·02·2021
POLYGON CONSTRUCTION
EXERCISE - 17
CONSTRUCT THE POLYGONS USING THE UNIVERSAL CONSTRUCTION METHOD
A
B
D
NAME- POOJITHA GUMMADAVELLY
ROLL NO - 20116036

ELLIPSE DRAWING EXERCISE

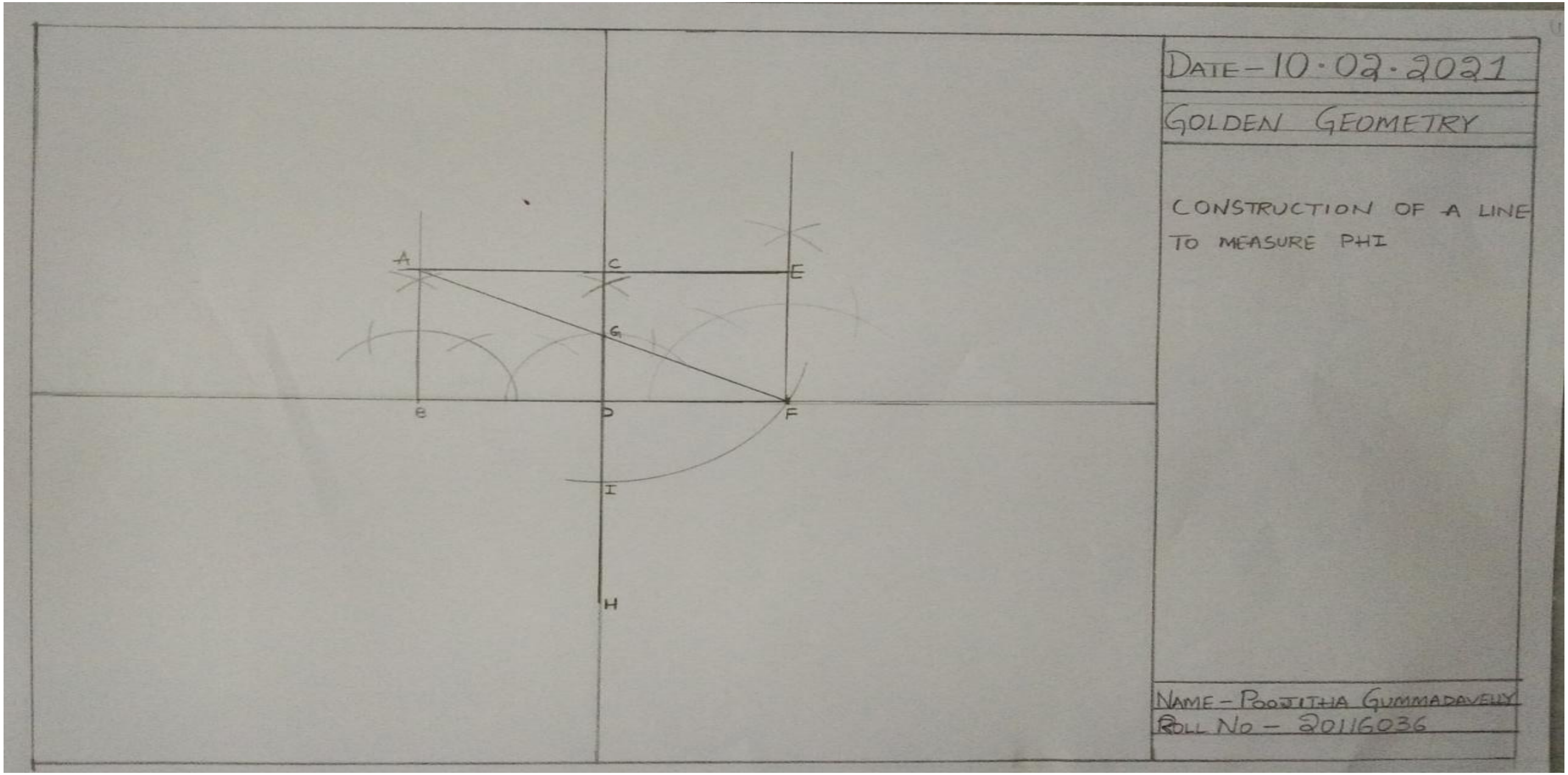
In this exercise , you need to develop control over engineering compass.
We get know to draw ellipse using different methods.

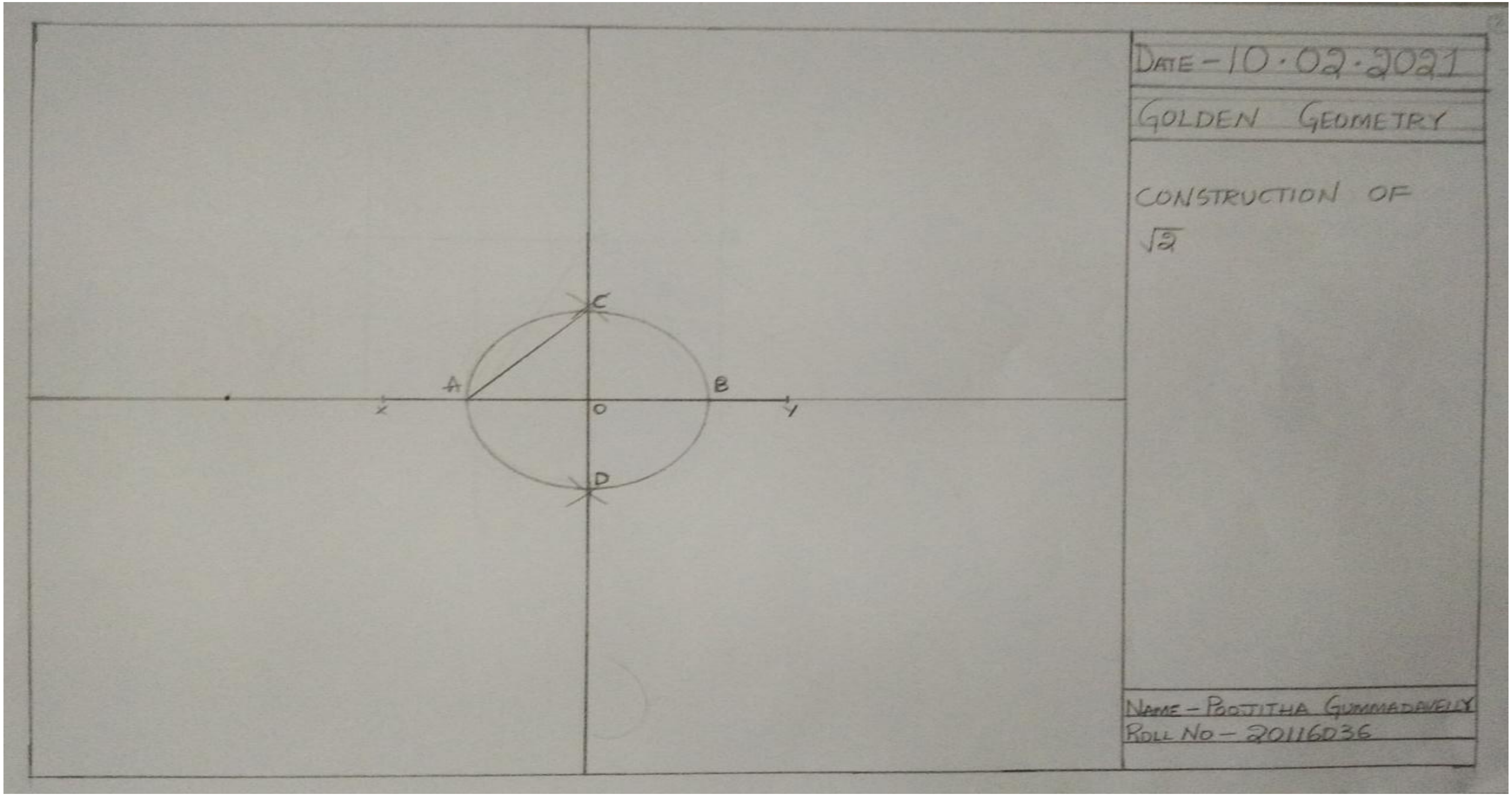

DATE-10.02.2021
ELLIPSE CONSTRUCTION
CONSTRUCT AN ELLIPSE USING COMPASS
NAME-POOJITHA GUMMADAVELLY
ROLL NO- 20116036

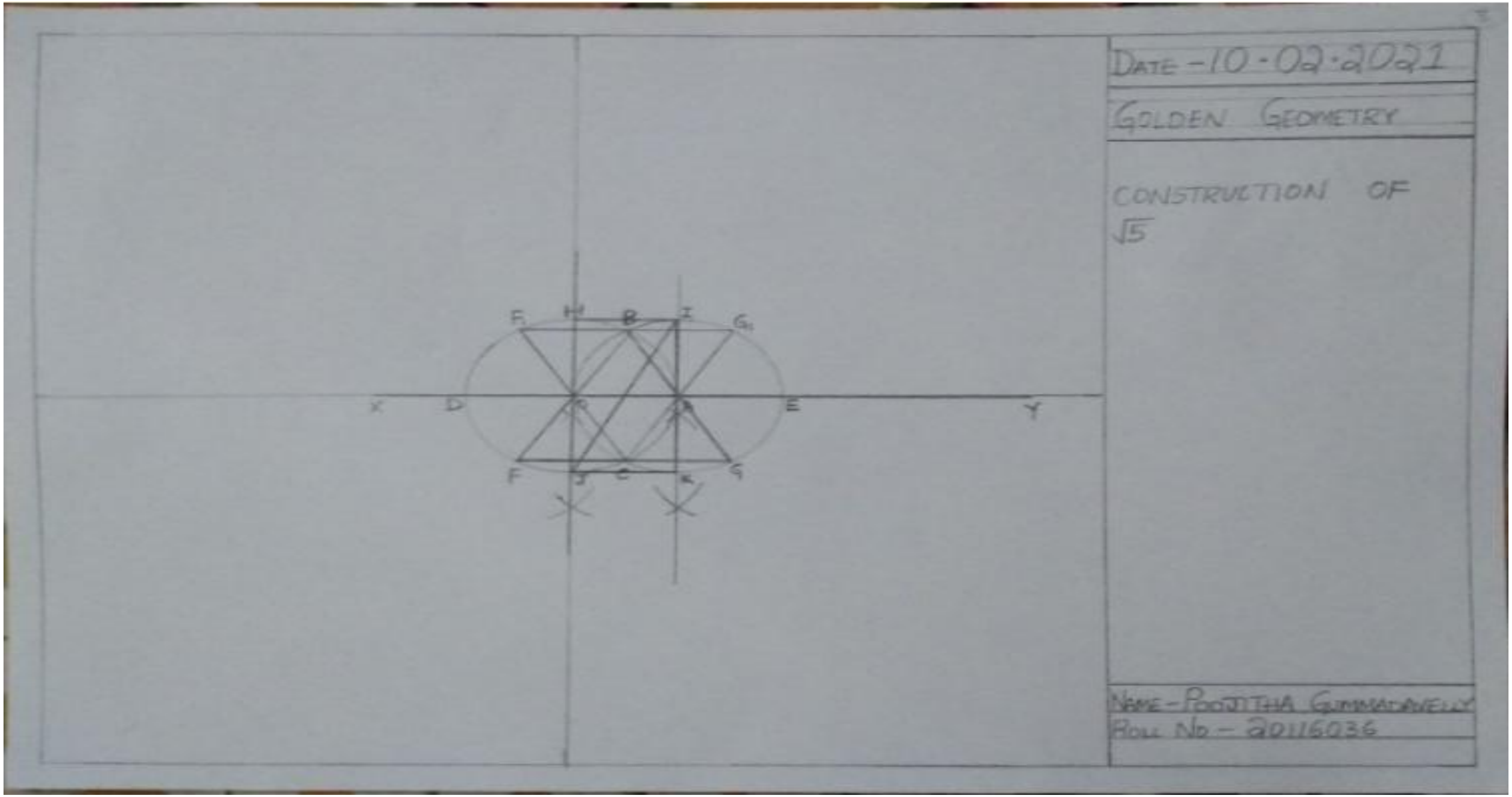

DATE - 10.02.2021
ELLIPSE CONSTRUCTION
CONSTRUCT AN ELLIPSE USING COMPASS
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036
A
B

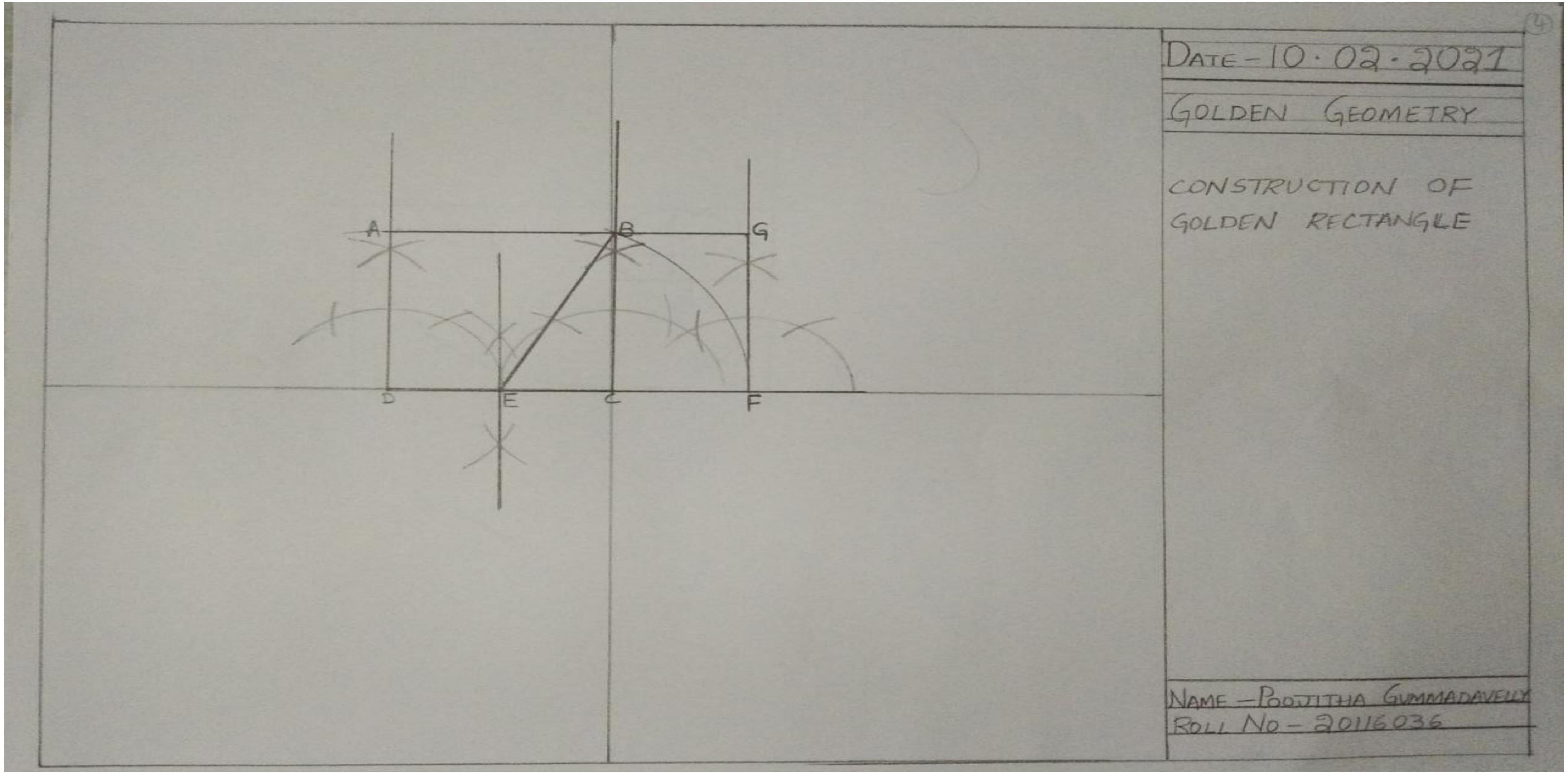
GOLDEN GEOMETRY EXERCISE

In this exercise, we get to construct a measure of phi, √2, √5, golden geometry, golden spiral and geometric analysis of “Vitruvian man”

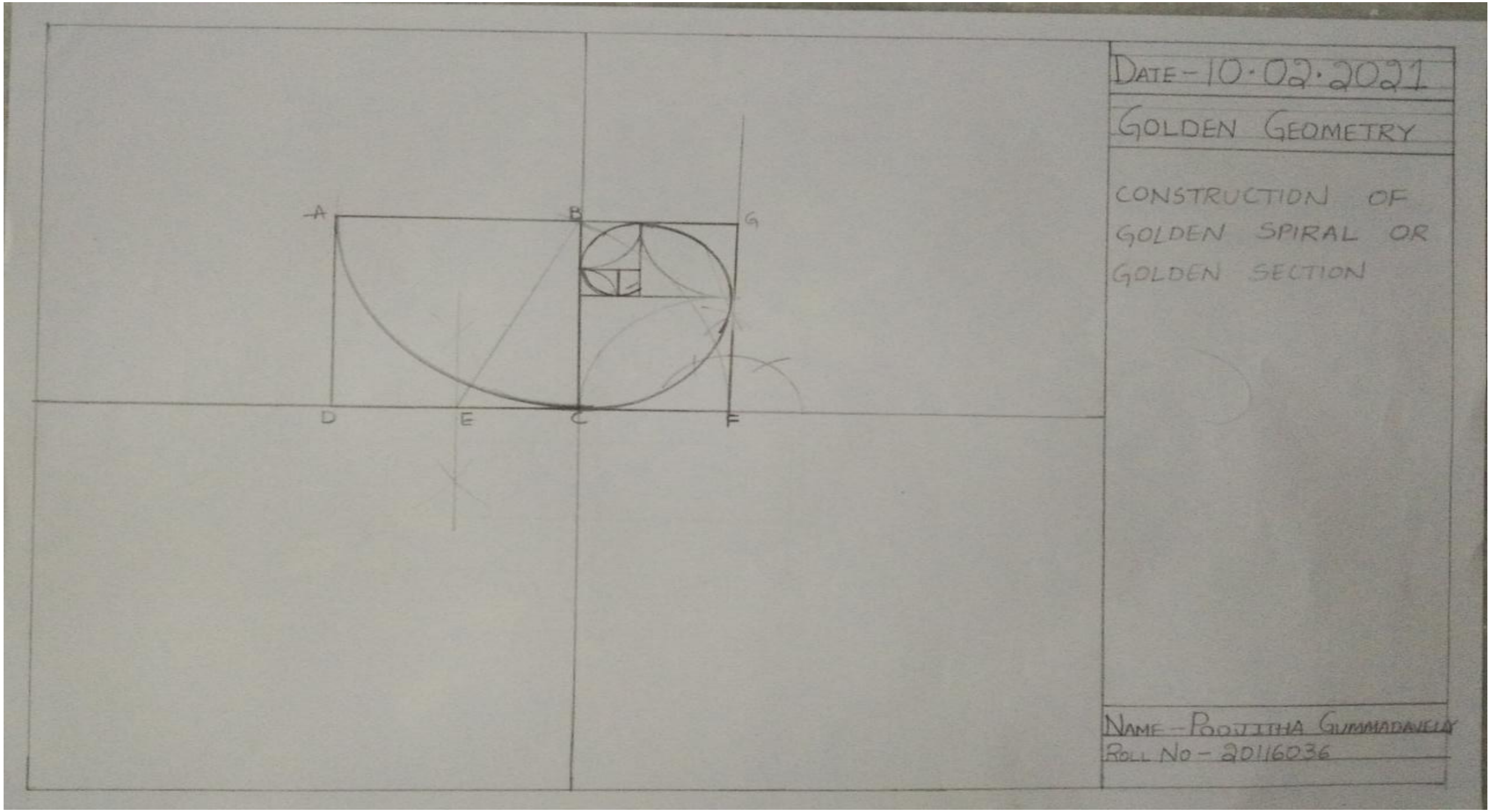

DATE - 10 · 02 · 2021
GOLDEN GEOMETRY
CONSTRUCTION OF A LINE TO MEASURE PHI
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036
A
C
E
G
B
D
F
I
H

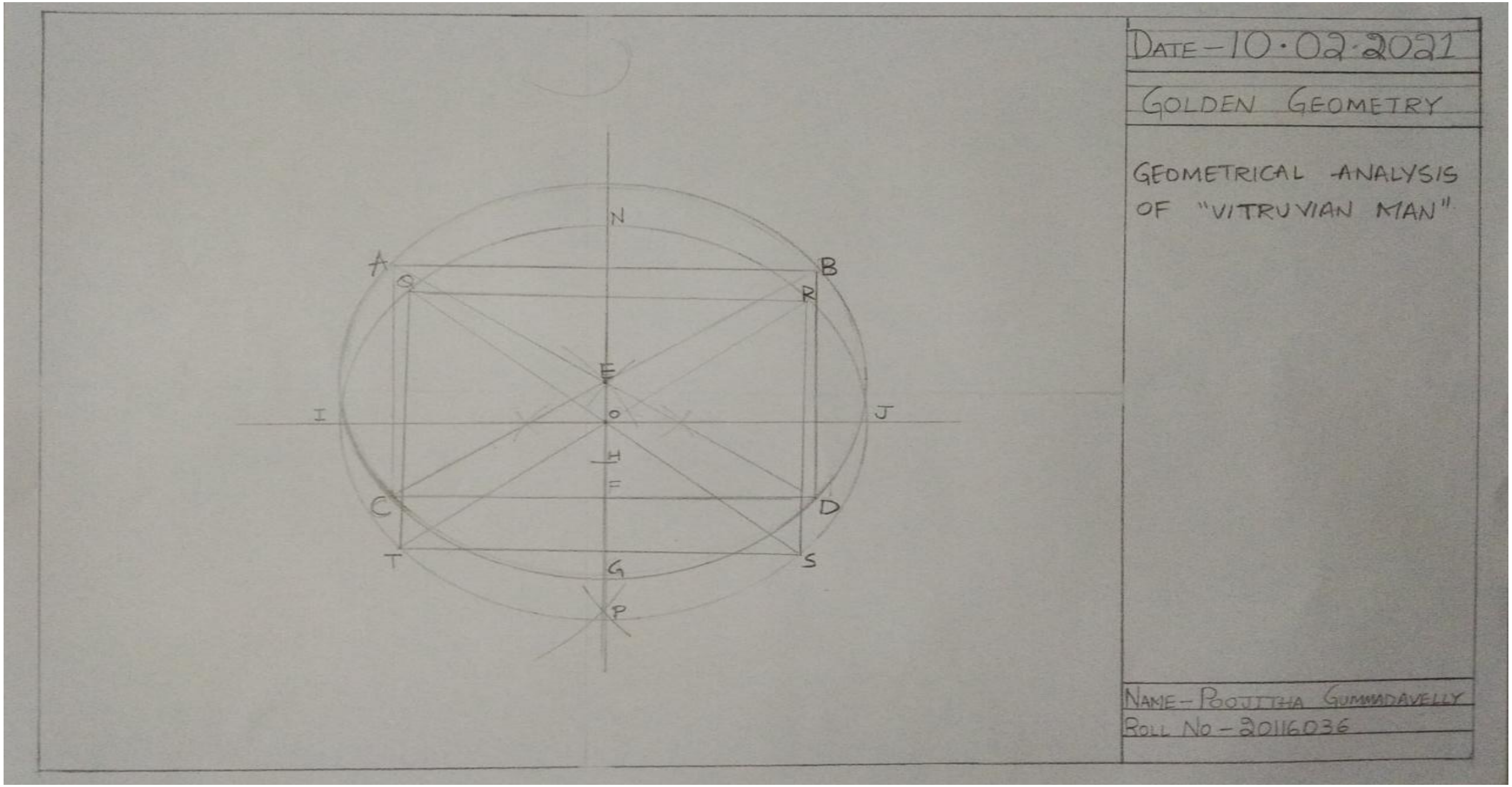

DATE - 10.02.2021
GOLDEN GEOMETRY
CONSTRUCTION OF
√2
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036
C
A
B
X
O
Y
D


DATE -10·02·2021
GOLDEN GEOMETRY
CONSTRUCTION OF
√5
NAME-POOJITHA GUMMADAVELLY
ROLL NO - 20116036



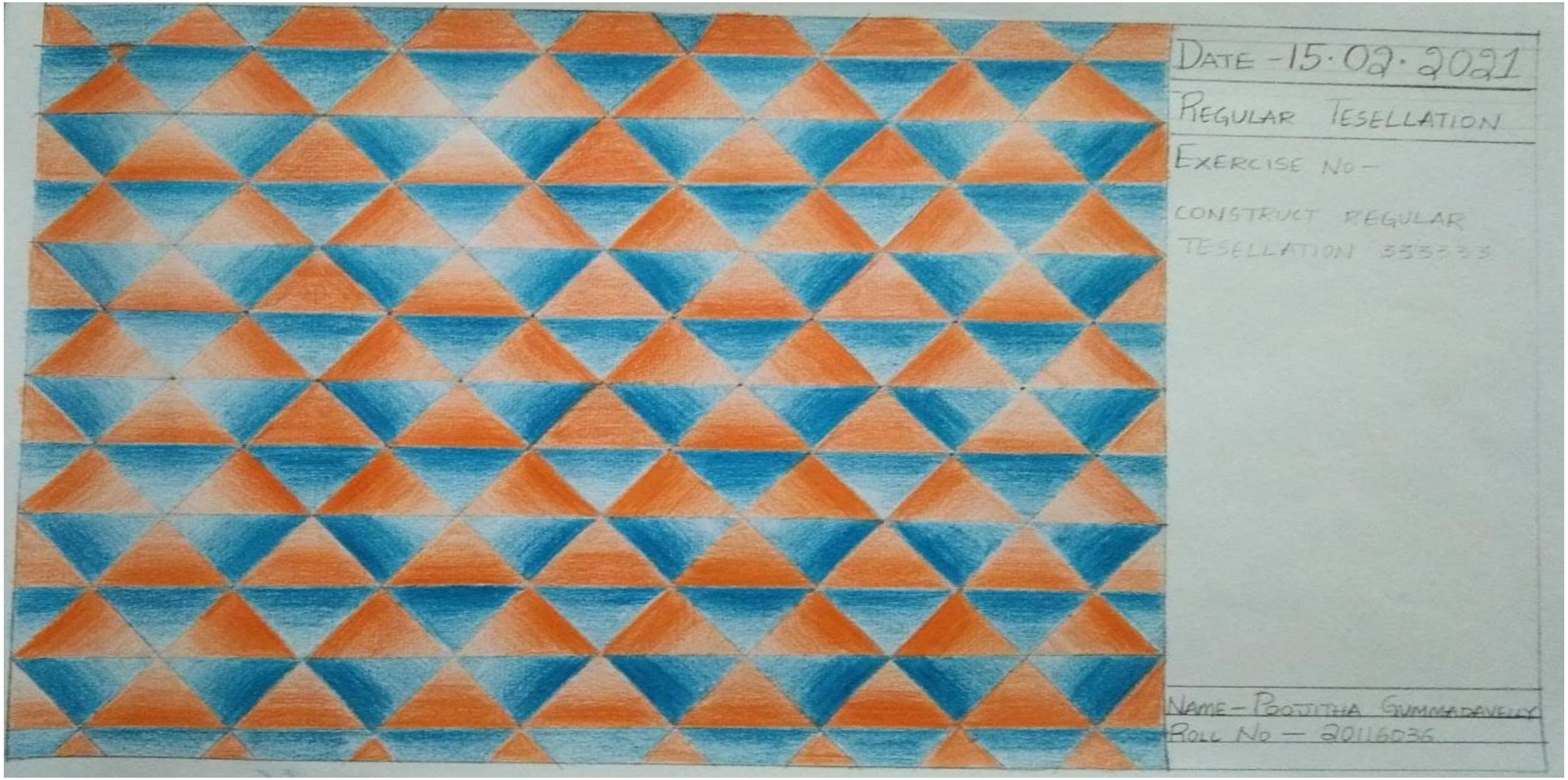
DATE-10·02·2021
GOLDEN GEOMETRY
CONSTRUCTION OF GOLDEN RECTANGLE
A
B
G
D
E
C
F
NAME-POOJITHA GUMMADAVELLY
ROLL NO-20116036

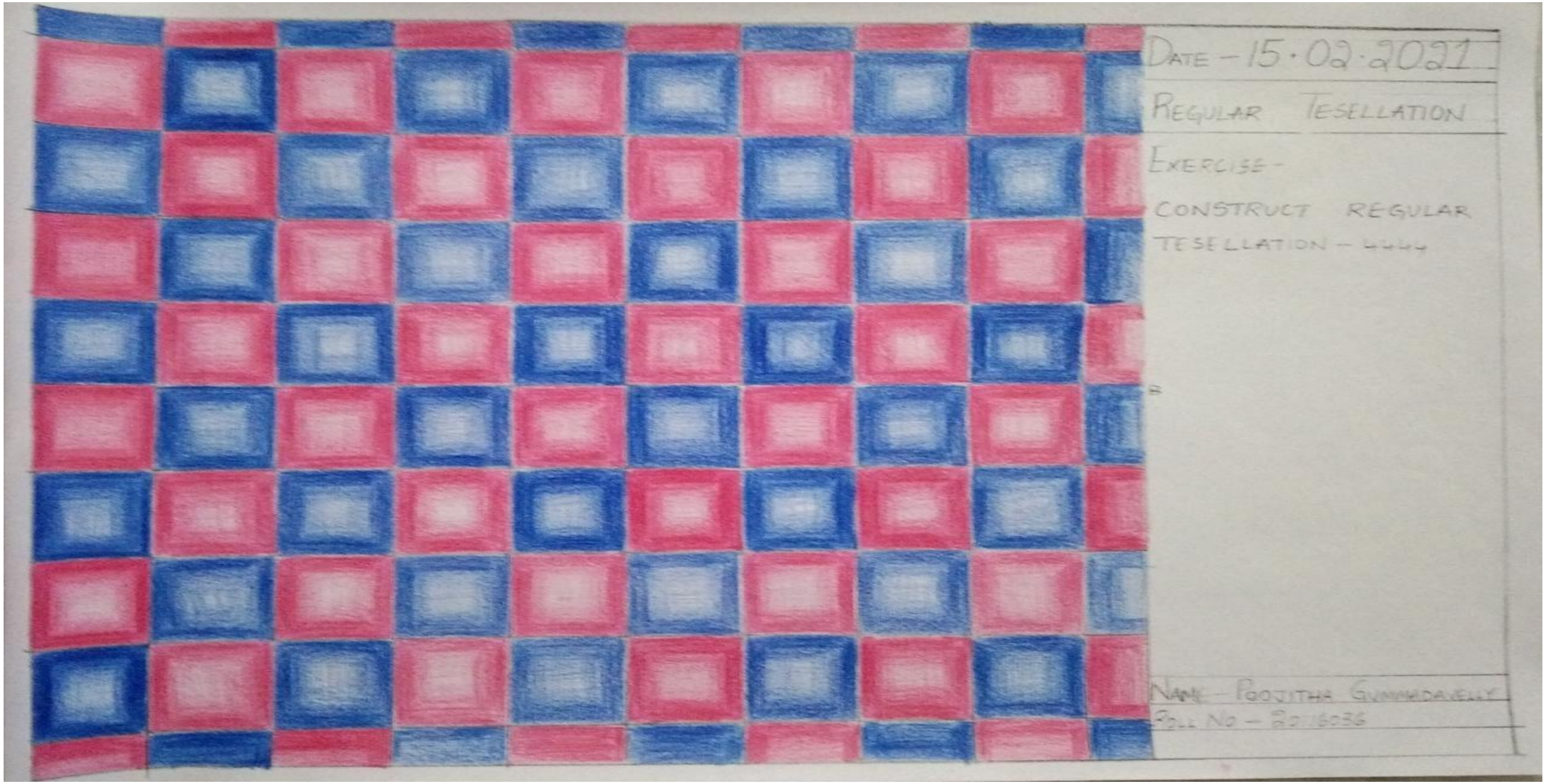

DATE-10·02·2021
GOLDEN GEOMETRY
CONSTRUCTION OF GOLDEN SPIRAL OR GOLDEN SECTION
NAME-POOJITHA GUMMADAVELLY
ROLL NO-20116036
A
B
G
D
E
C
F

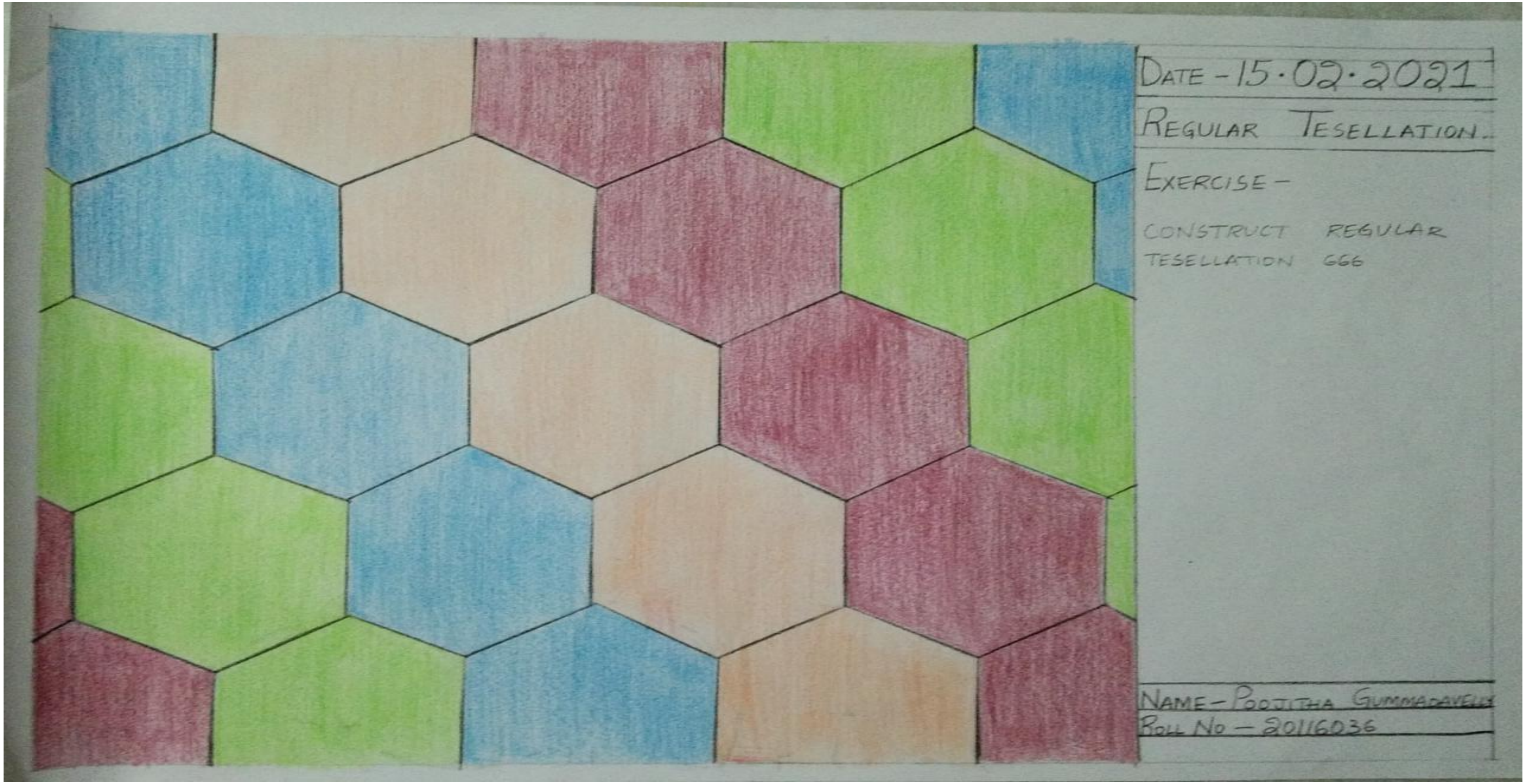

DATE-10·02·2021
GOLDEN GEOMETRY
GEOMETRICAL ANALYSIS OF "VITRUVIAN MAN"
N
A
B
Q
R
E
I
O
J
H
F
C
D
T
S
G
P
NAME-POOJITHA GUMMADAVELLY
ROLL NO-20116036

TESSELATIONS DRAWING EXERCISE

In this exercise, we get to draw regular tessellation of 333333, 4444, 666


DATE - 15·02·2021
REGULAR TESELLATION
EXERCISE NO -
CONSTRUCT REGULAR TESELLATION 333333
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036

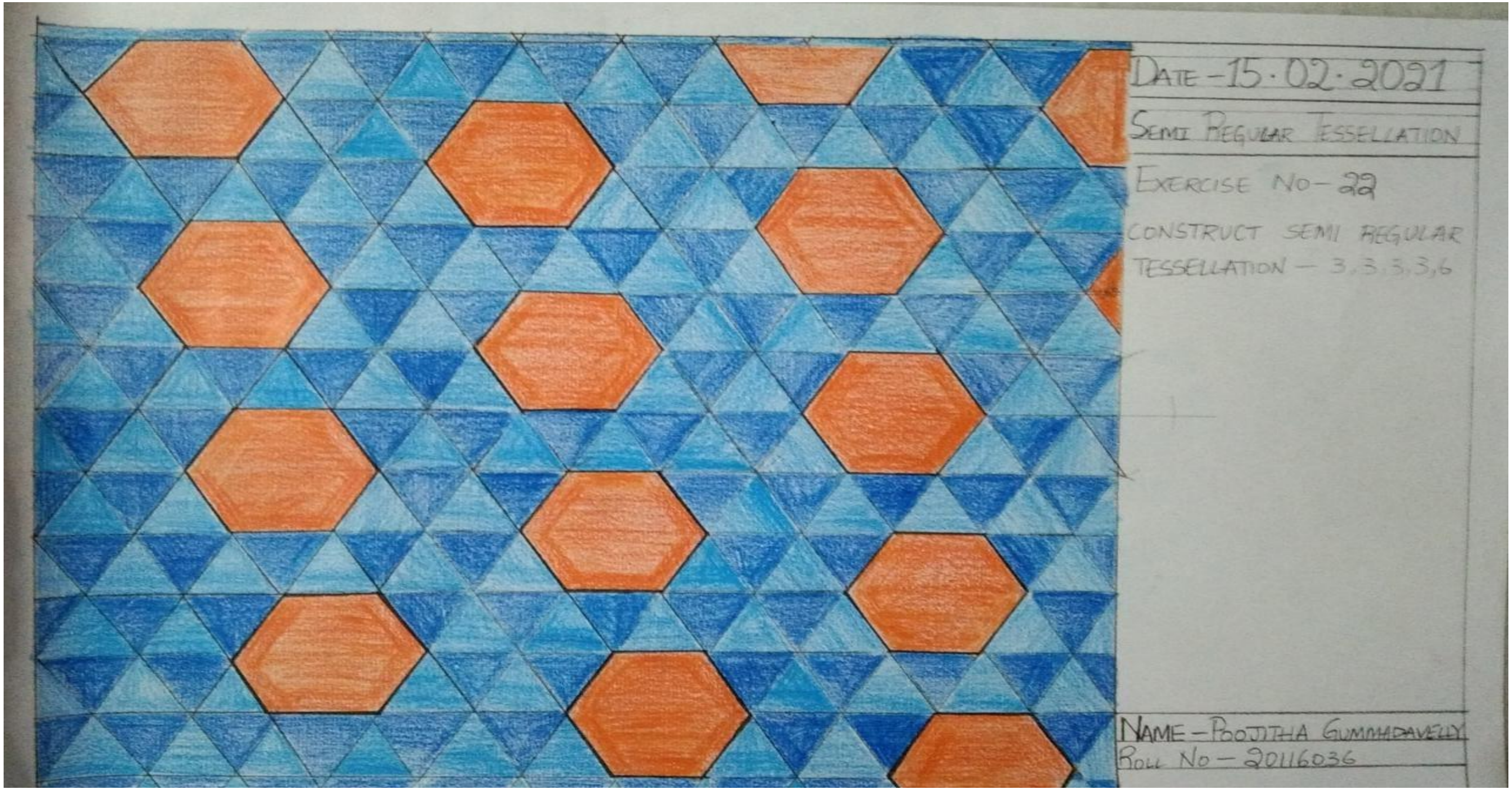

DATE - 15·02·2021
REGULAR TESELLATION
EXERCISE-
CONSTRUCT REGULAR TESELLATION - 444
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036

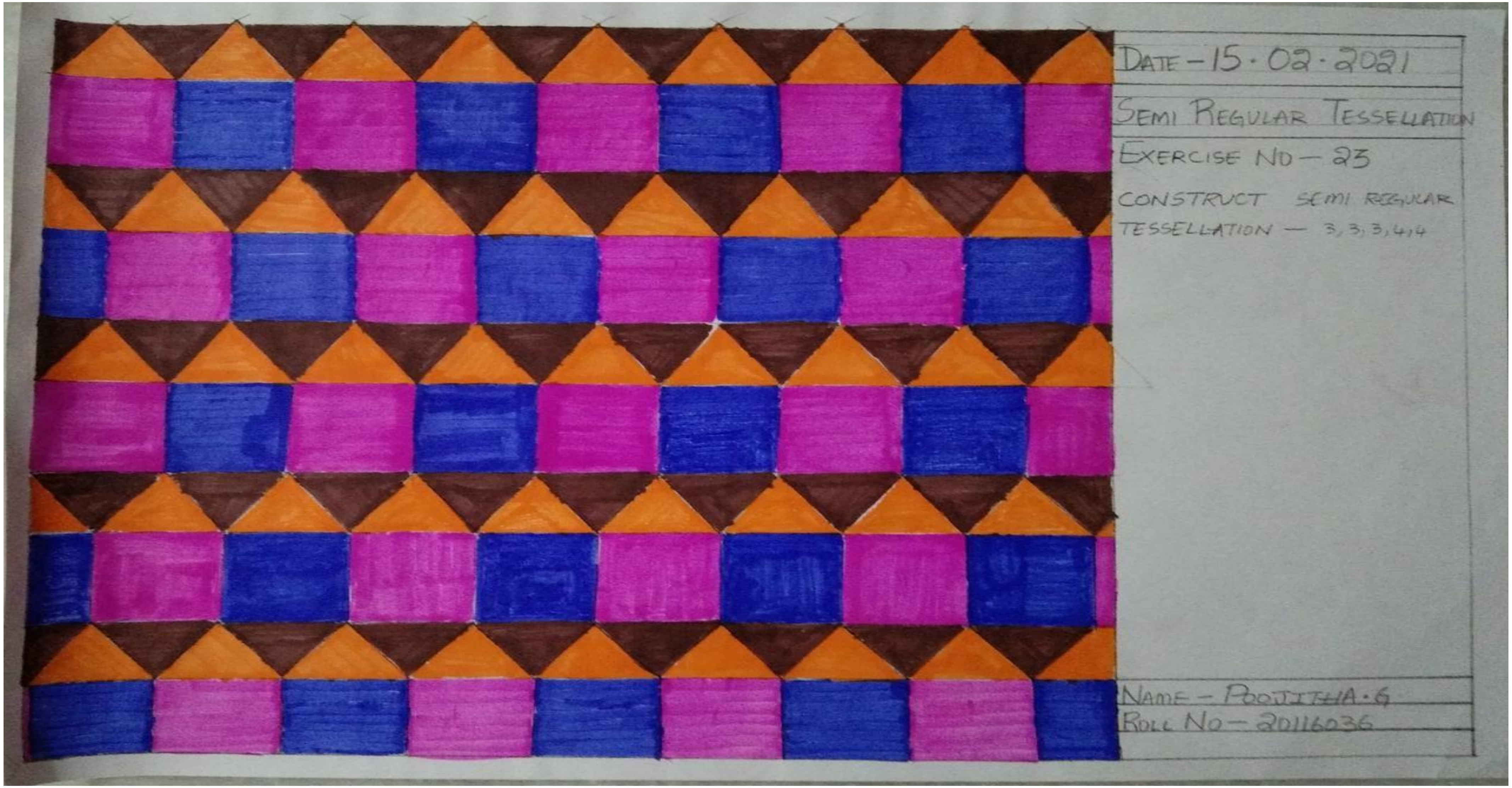

DATE - 15·02·2021
REGULAR TESELLATION.
EXERCISE -
CONSTRUCT REGULAR
TESELLATION 666
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036

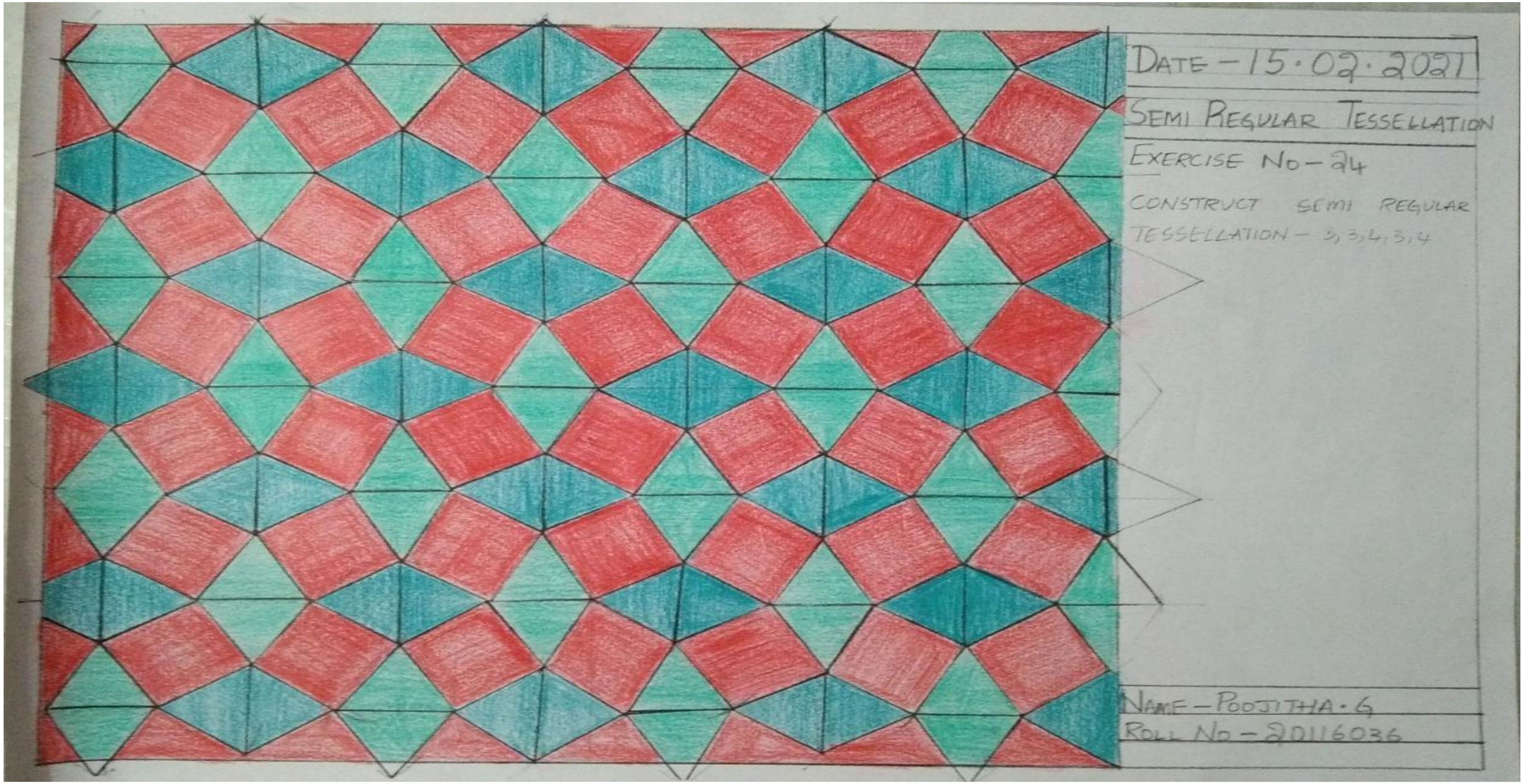
SEMI REGULAR TESSELATIONS DRAWING EXERCISE

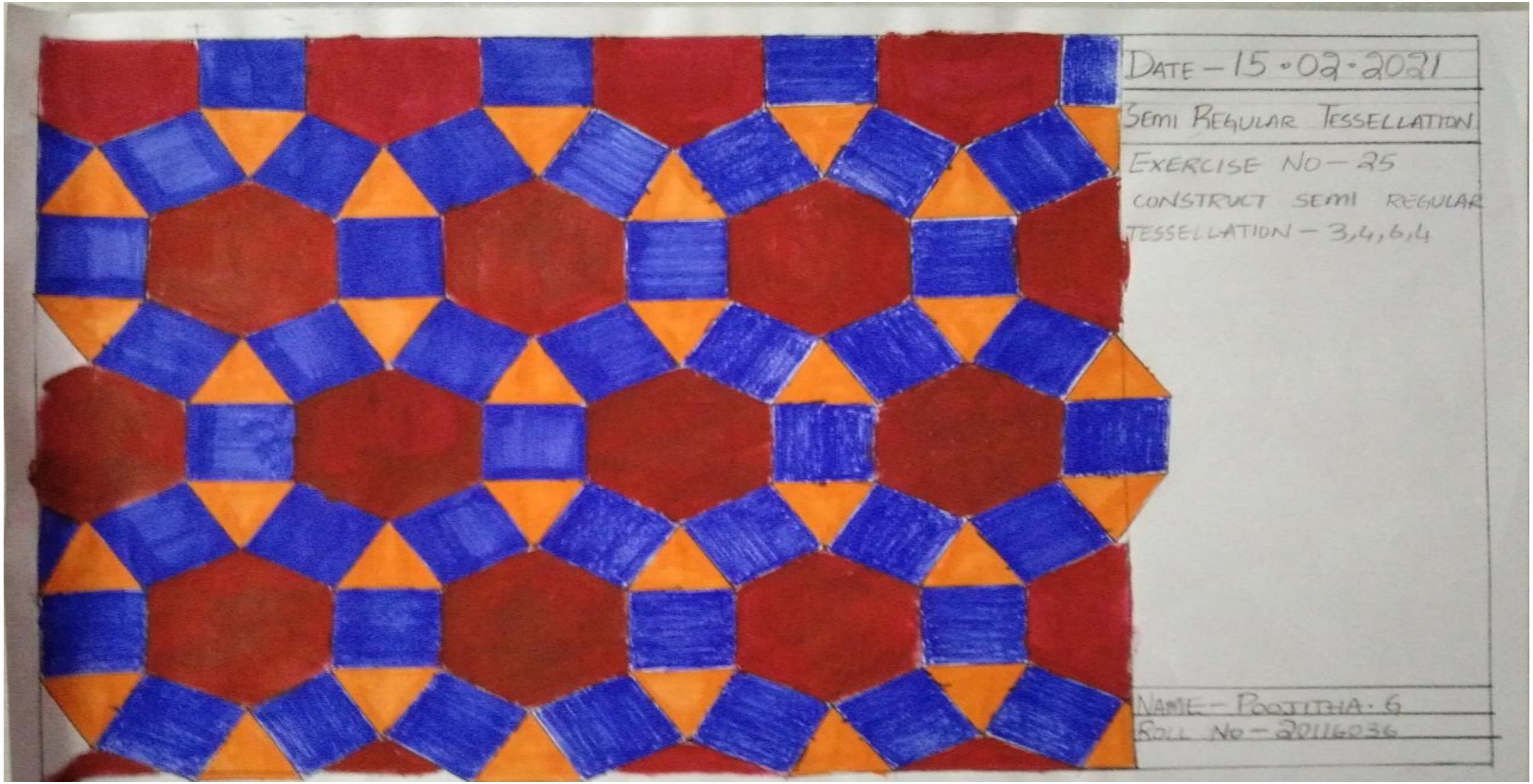
In this exercise, we get to know how to draw tessellation of 3 6 3 6, 3 3 3 3 6, 3 3 3 4 4, 3 3 4 3 4, 3 4 6 4, 4 8 8, 4 6 12, 3 12 12


DATE – 15·02·2021
SEMI REGULAR TESSELLATION
EXERCISE – 21
CONSTRUCT A SEMIREGULAR
TESSELLATION – 3.6.3.6
NAME – POOJITHA · G
ROLL NO – 20116036

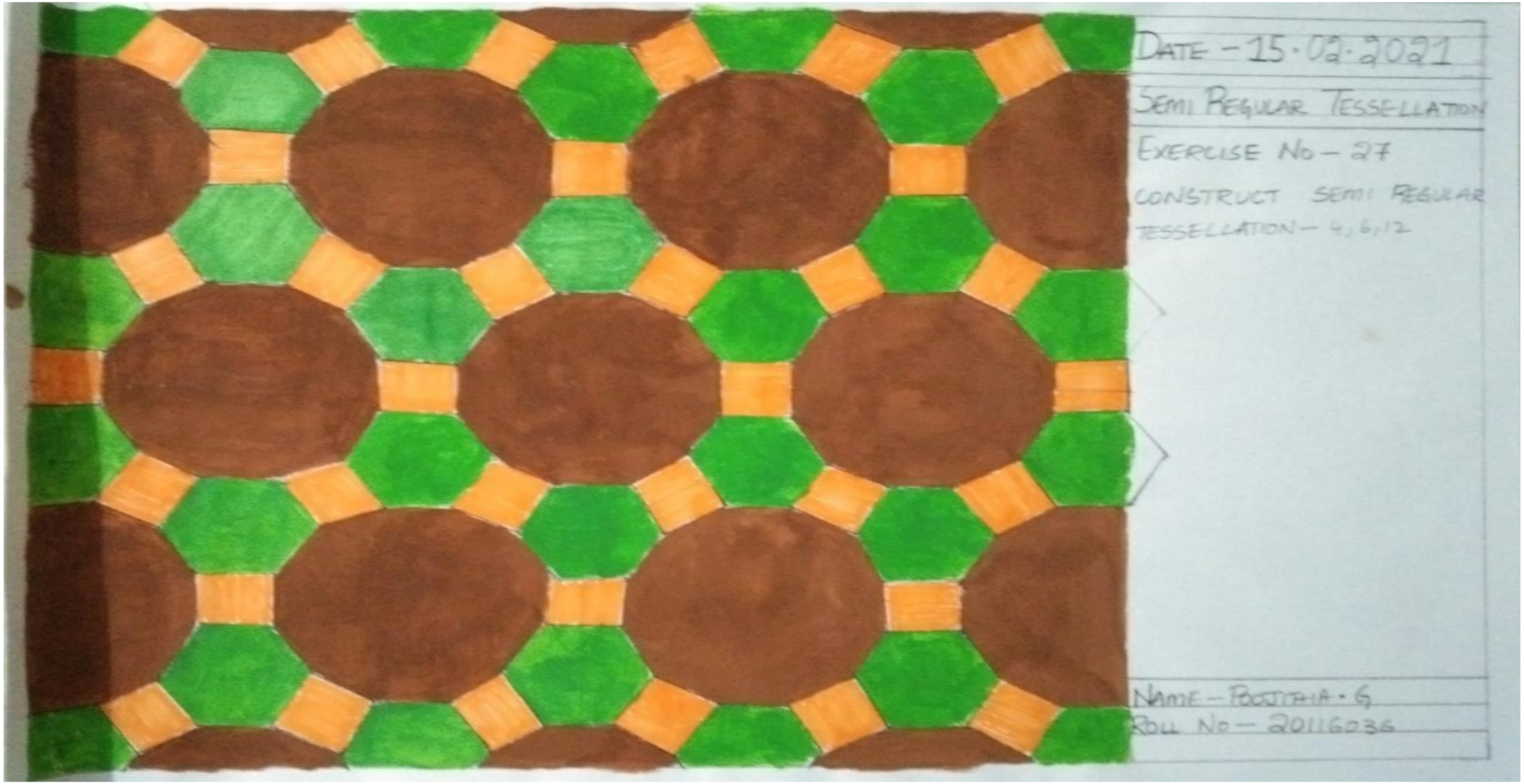

DATE - 15 · 02 · 2021
SEMI REGULAR TESSELLATION
EXERCISE NO - 22
CONSTRUCT SEMI REGULAR TESSELLATION - 3,3,3,3,6
NAME - POOJITHA GUMMADAVELLY
ROLL NO - 20116036

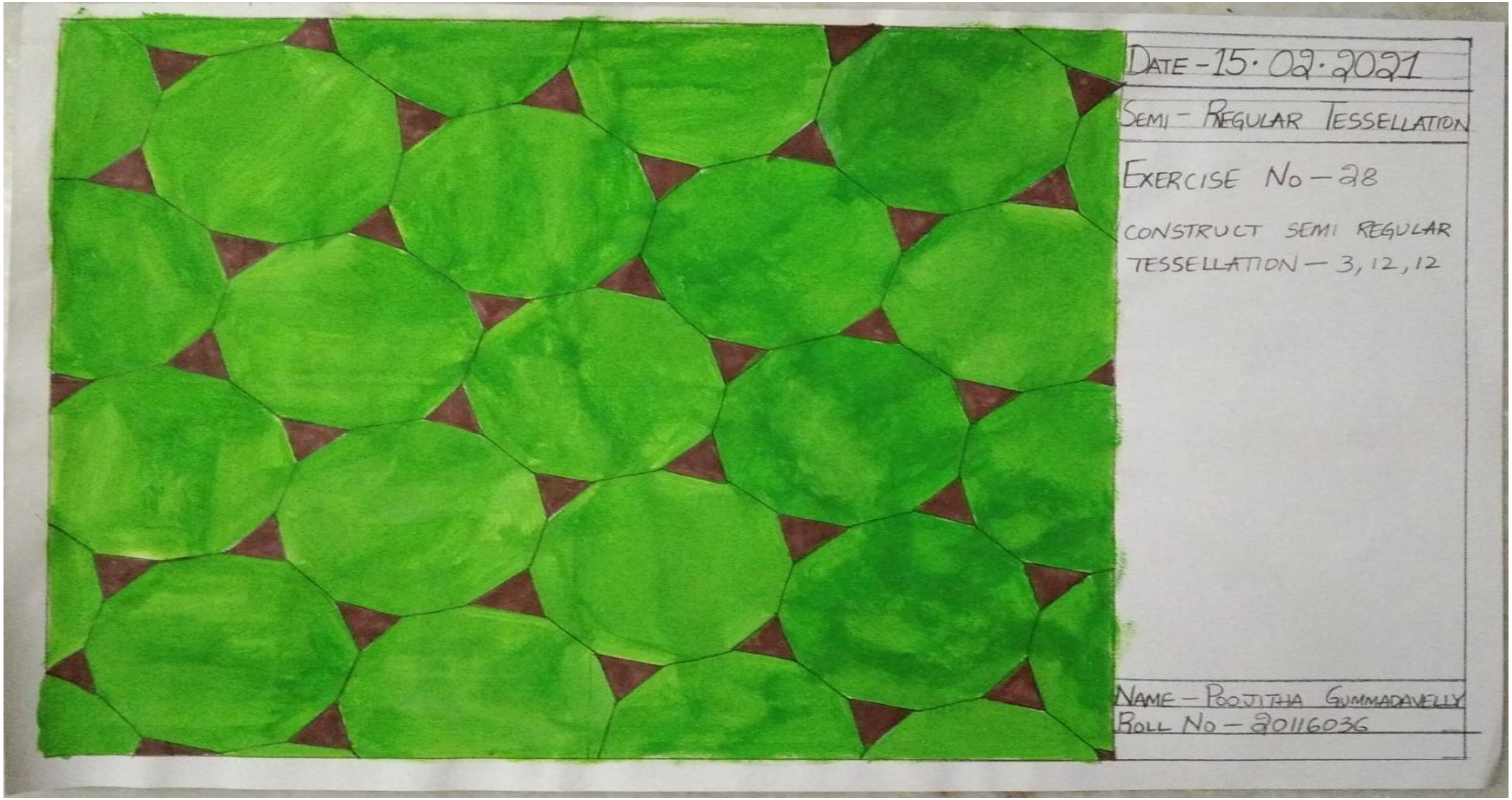

DATE - 15 · 02 · 2021
SEMI REGULAR TESSELLATION
EXERCISE NO - 23
CONSTRUCT SEMI REGULAR TESSELLATION - 3,3,3,4,4
NAME - POOJITHA · G
ROLL NO - 20116036


DATE - 15·02·2021
SEMI REGULAR TESSELLATION
EXERCISE NO - 24
CONSTRUCT SEMI REGULAR TESSELLATION - 3,3,4,3,4
NAME - POOJITHA·G
ROLL NO - 20116036


DATE – 15·02·2021
SEMI REGULAR TESSELLATION
EXERCISE NO – 25
CONSTRUCT SEMI REGULAR TESSELLATION – 3,4,6,4
NAME – POOJITHA · G
ROLL NO – 20116036

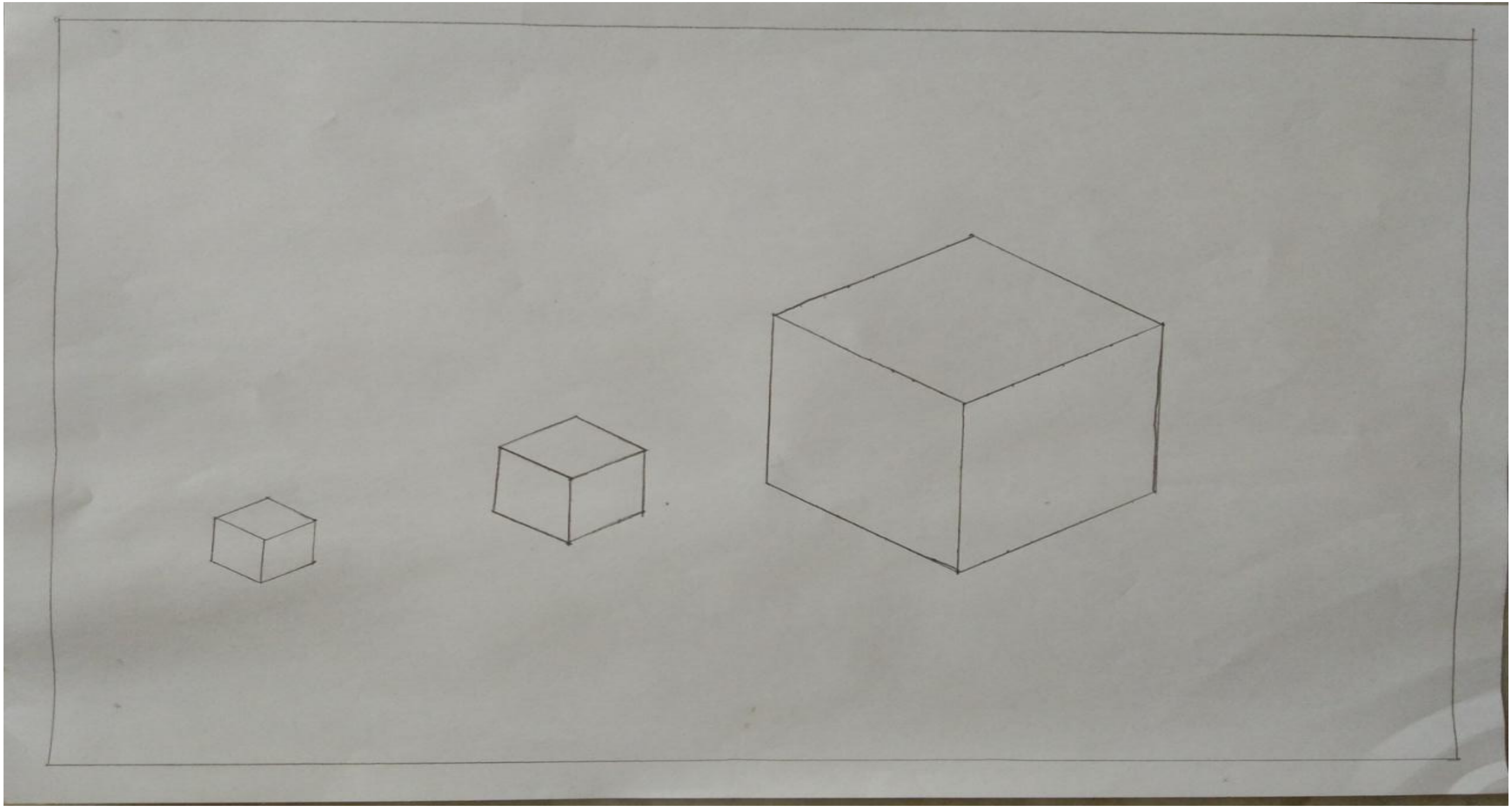

DATE – 15·02·2021
SEMI REGULAR TESSELLATION
EXERCISE NO – 26
CONSTRUCT SEMI REGULAR TESSELLATION – 4,8,8
NAME – POOJITHA·G
ROLL NO – 20116036

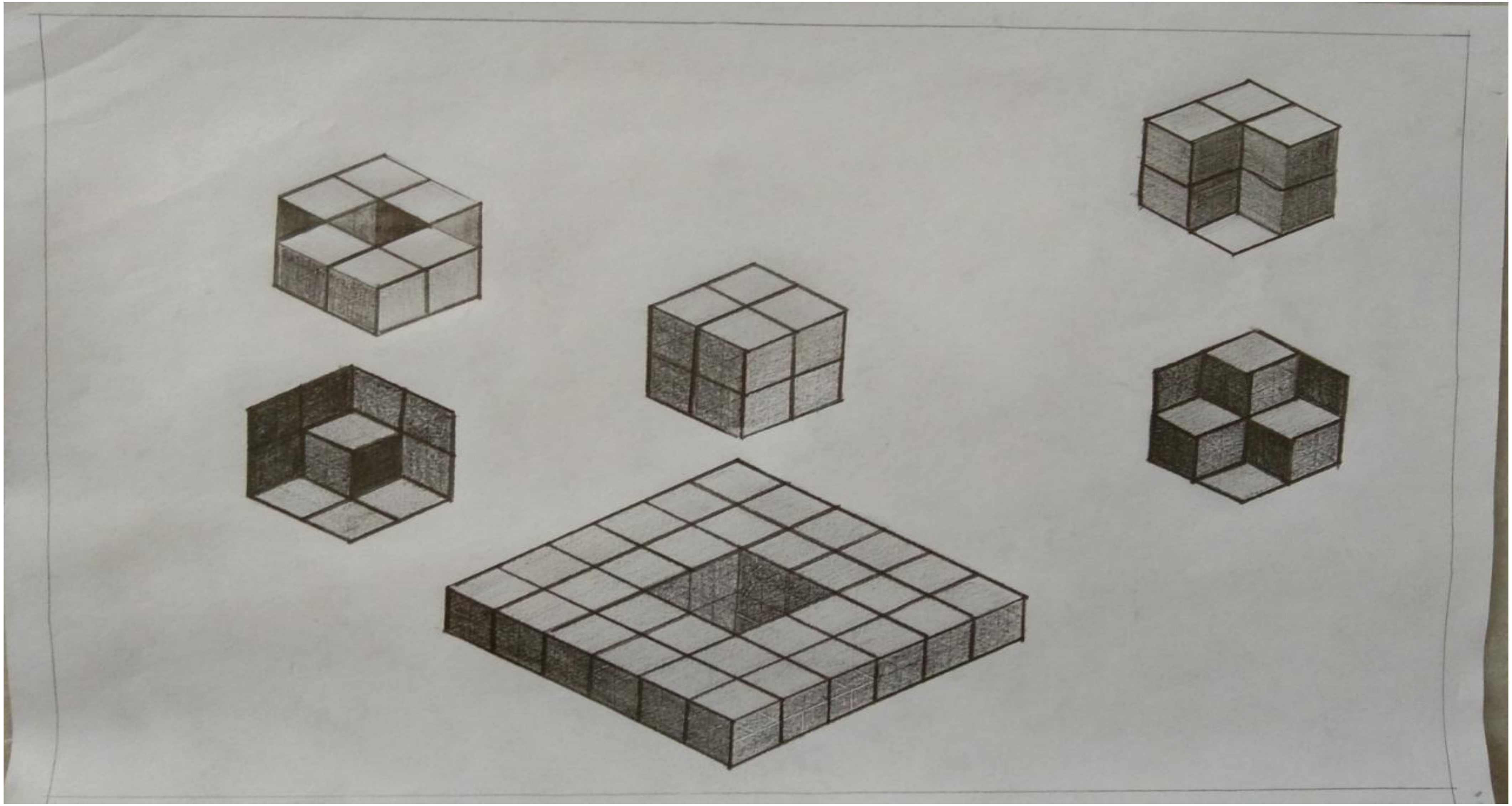

DATE - 15.02.2021
SEMI REGULAR TESSELLATION
EXERCISE No - 27
CONSTRUCT SEMI REGULAR TESSELLATION - 4,6,12
NAME - POOJITHA . G
ROLL No - 20116036

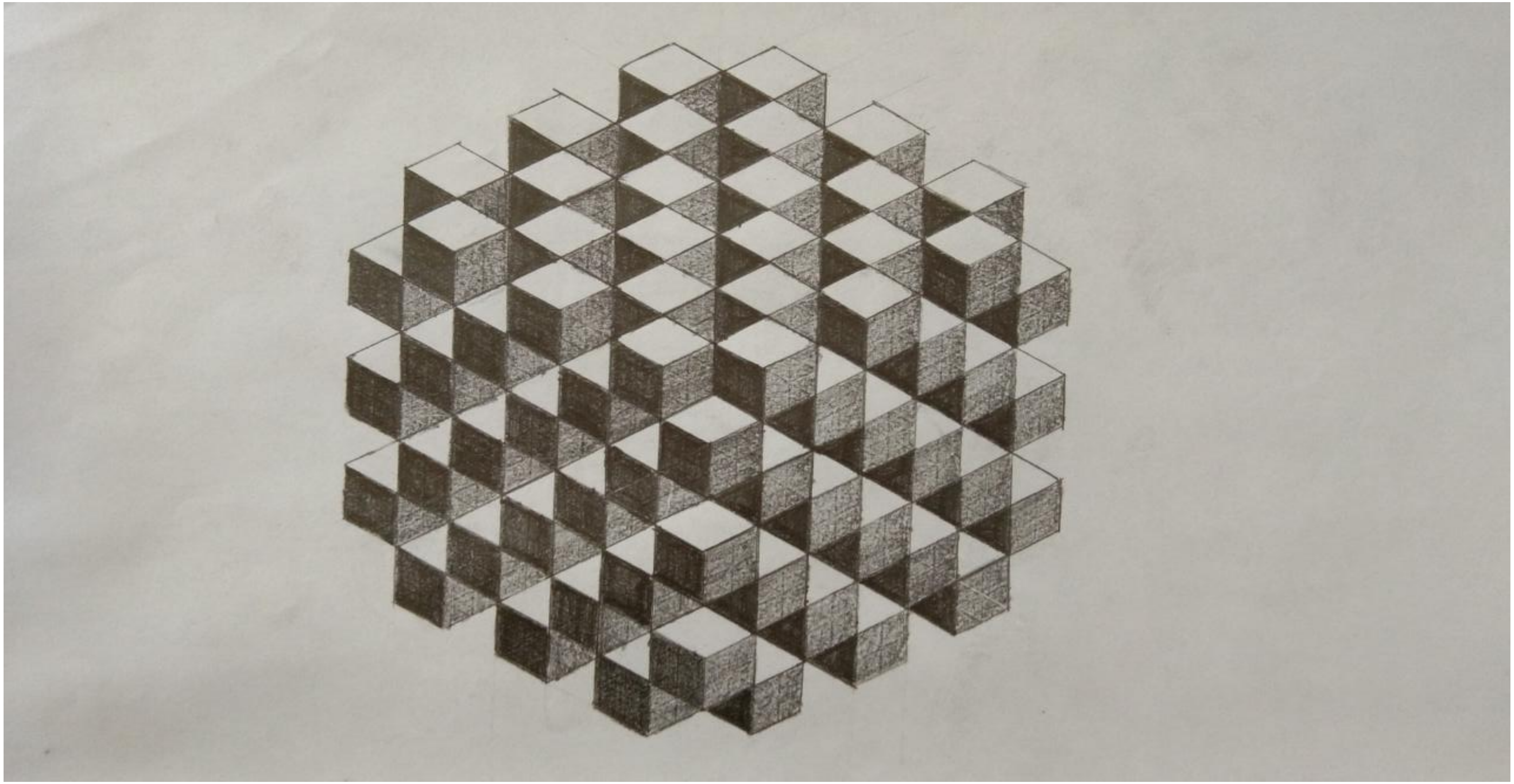

DATE - 15·02·2021
SEMI - REGULAR TESSELLATION
EXERCISE No - 28
CONSTRUCT SEMI REGULAR TESSELLATION - 3, 12, 12
NAME - POOJITHA GUMMADAVELLY
ROLL No - 20116036

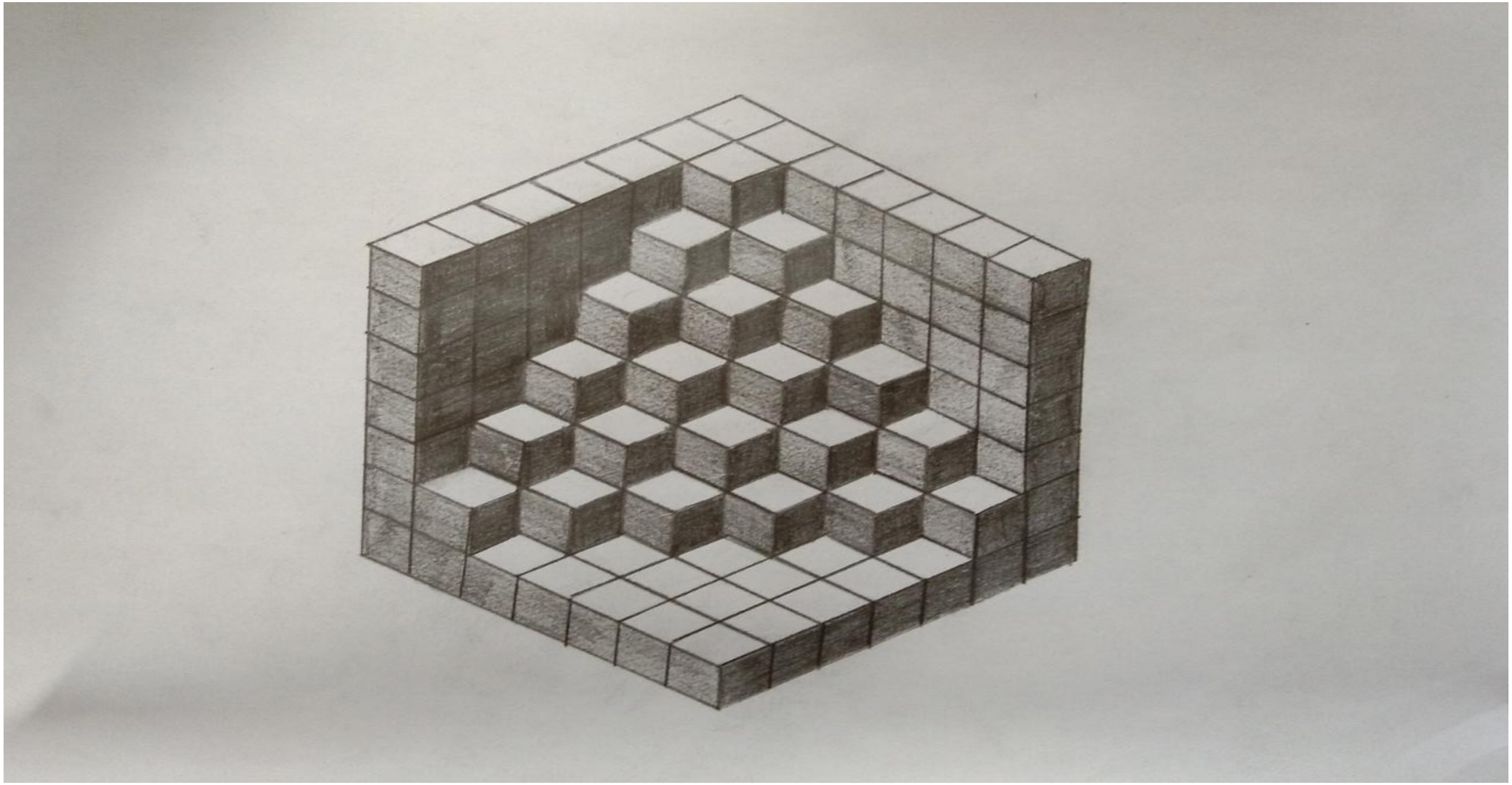
ISOMETRIC DRAWING EXERCISE

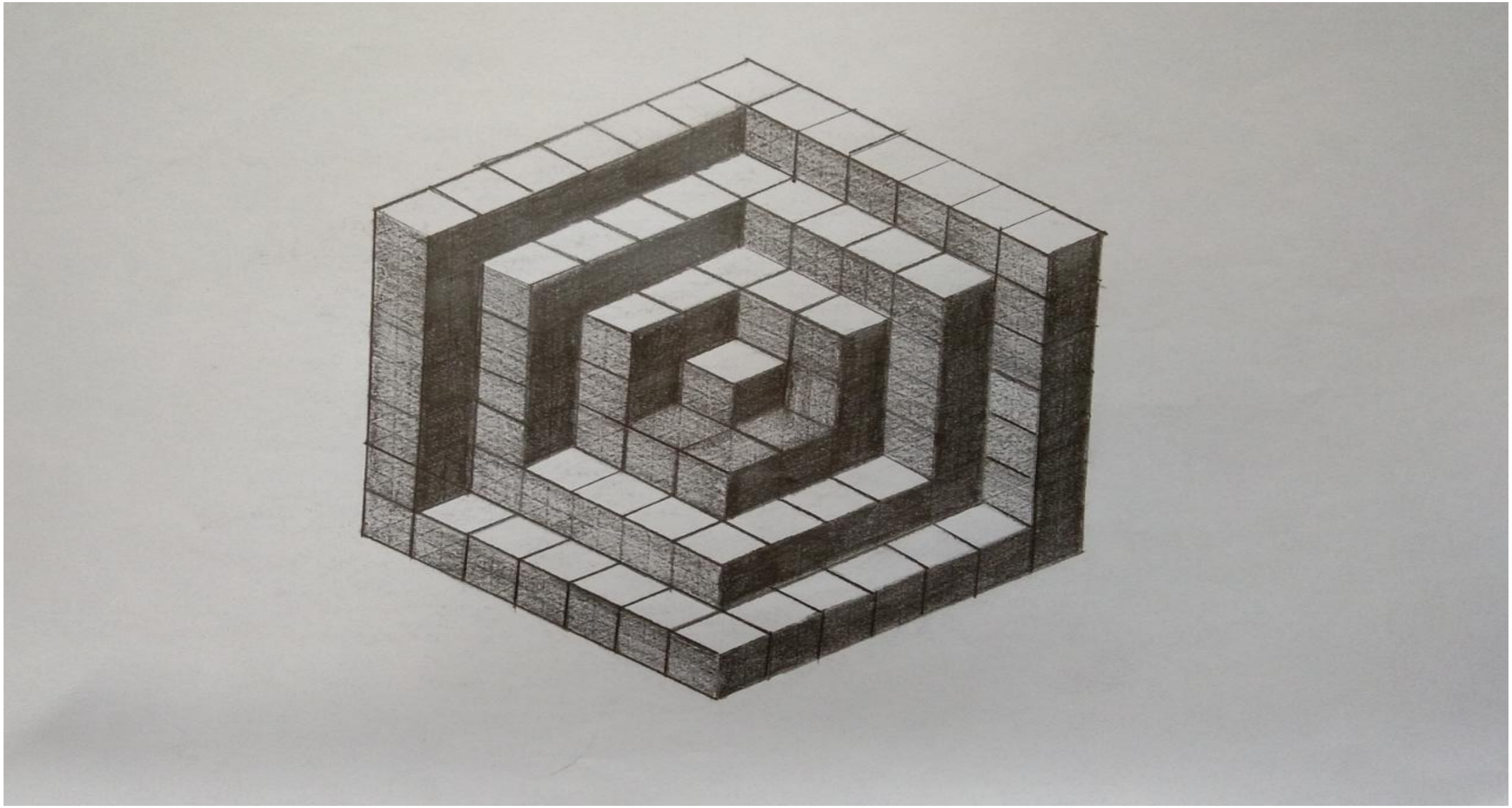
In this exercise, we need to draw three-dimensional objects in two dimensions. To get the isometric drawing first we have to draw isometric grid and then trace the given drawing by placing a copier paper over it

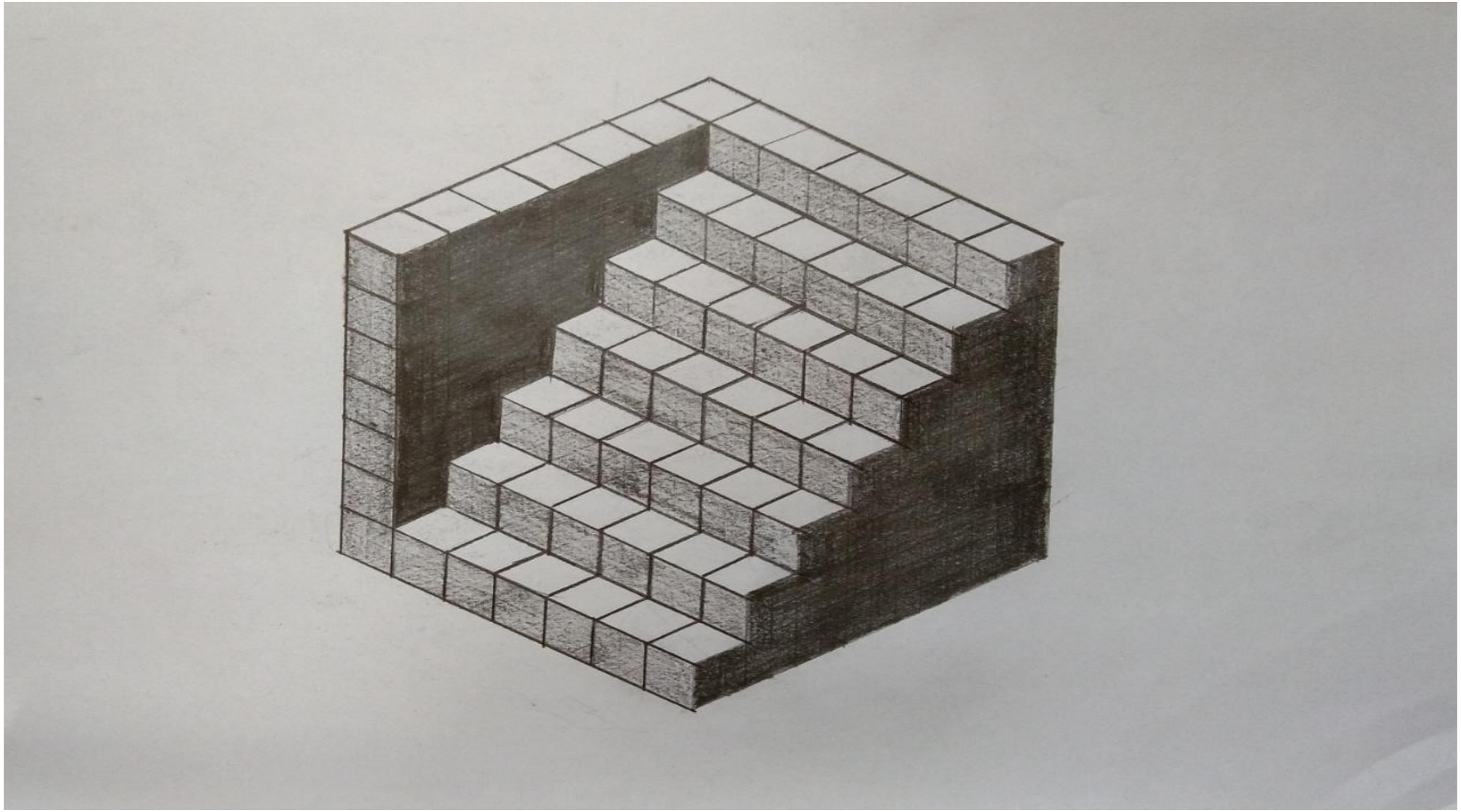


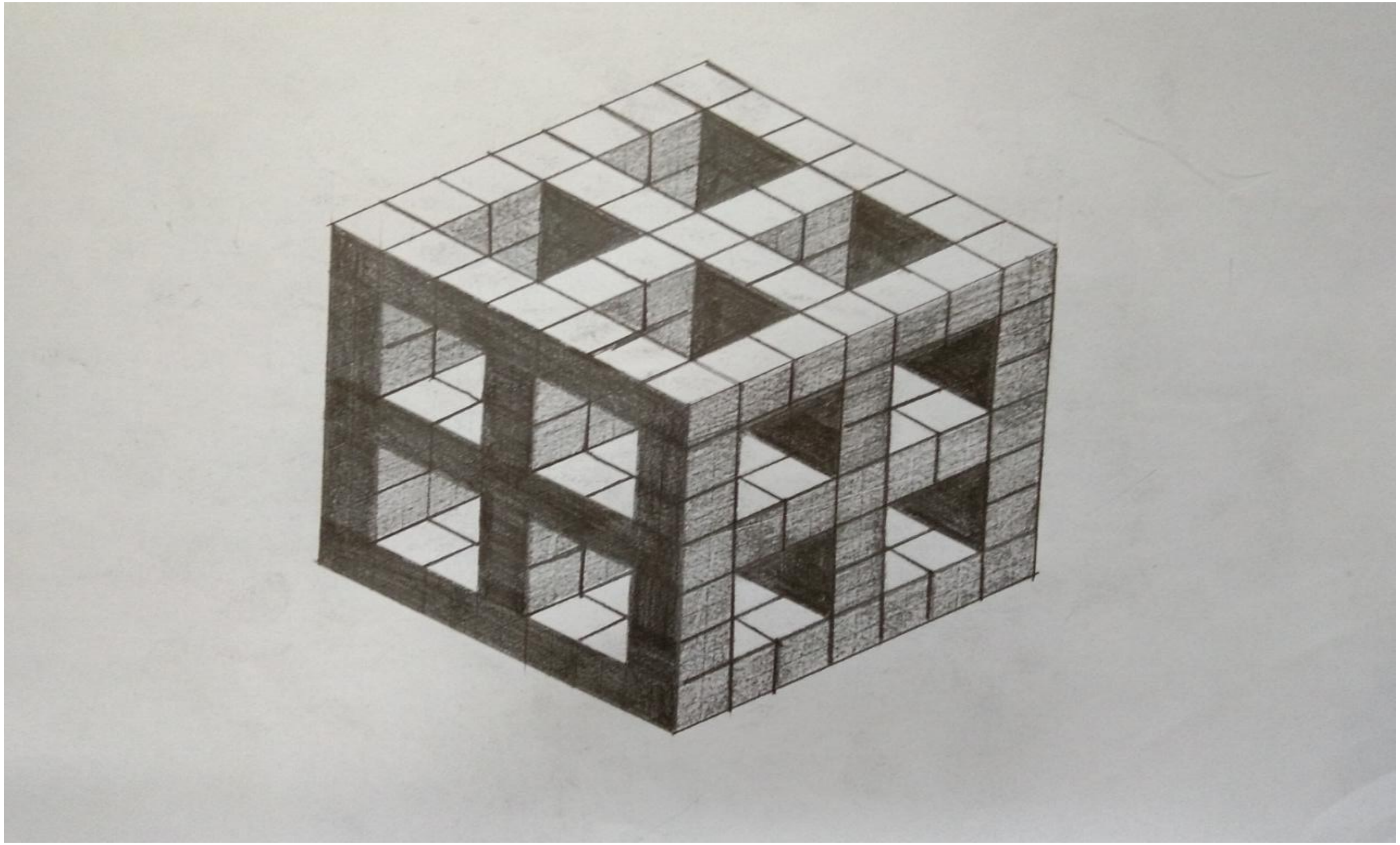


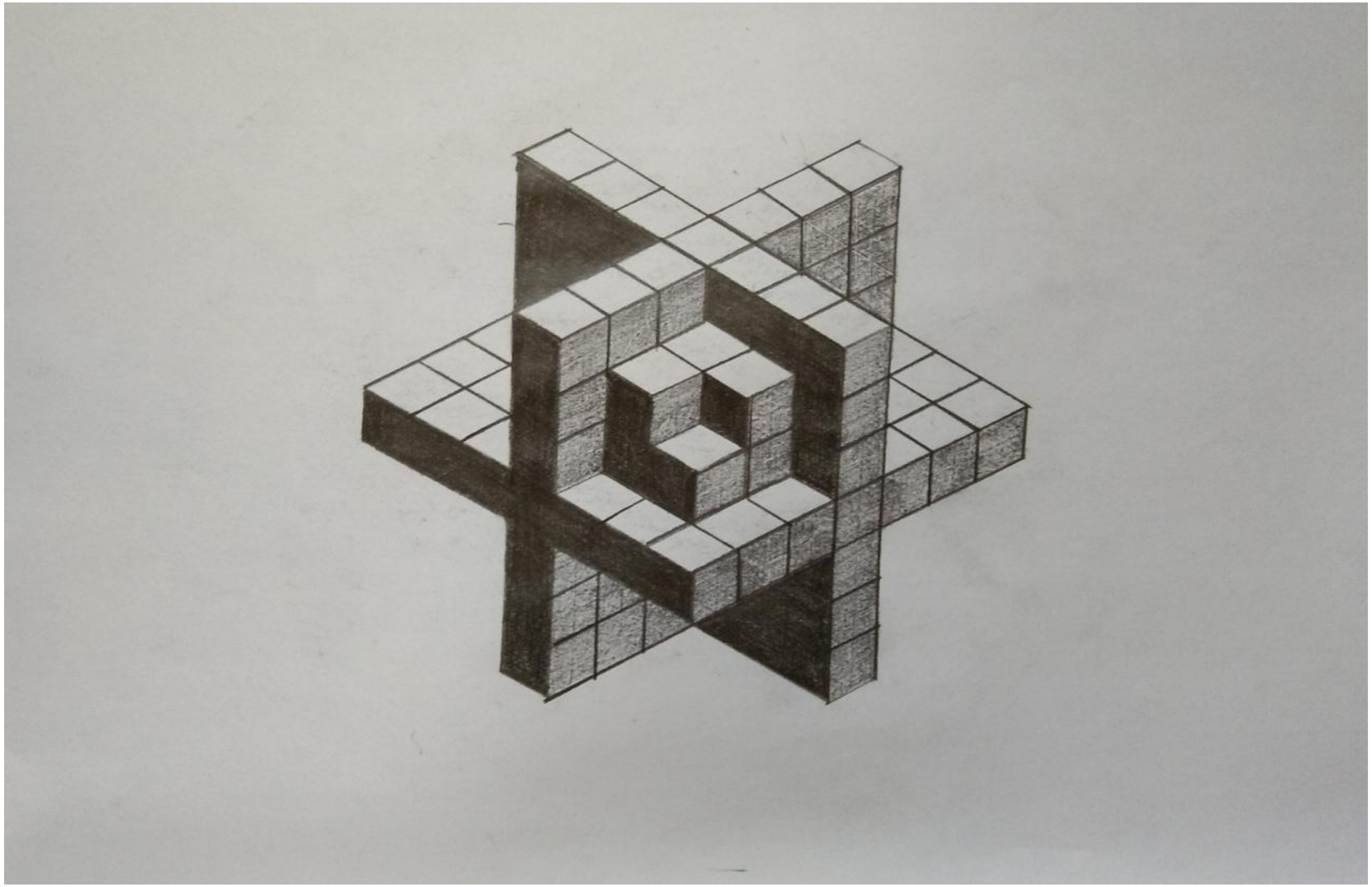


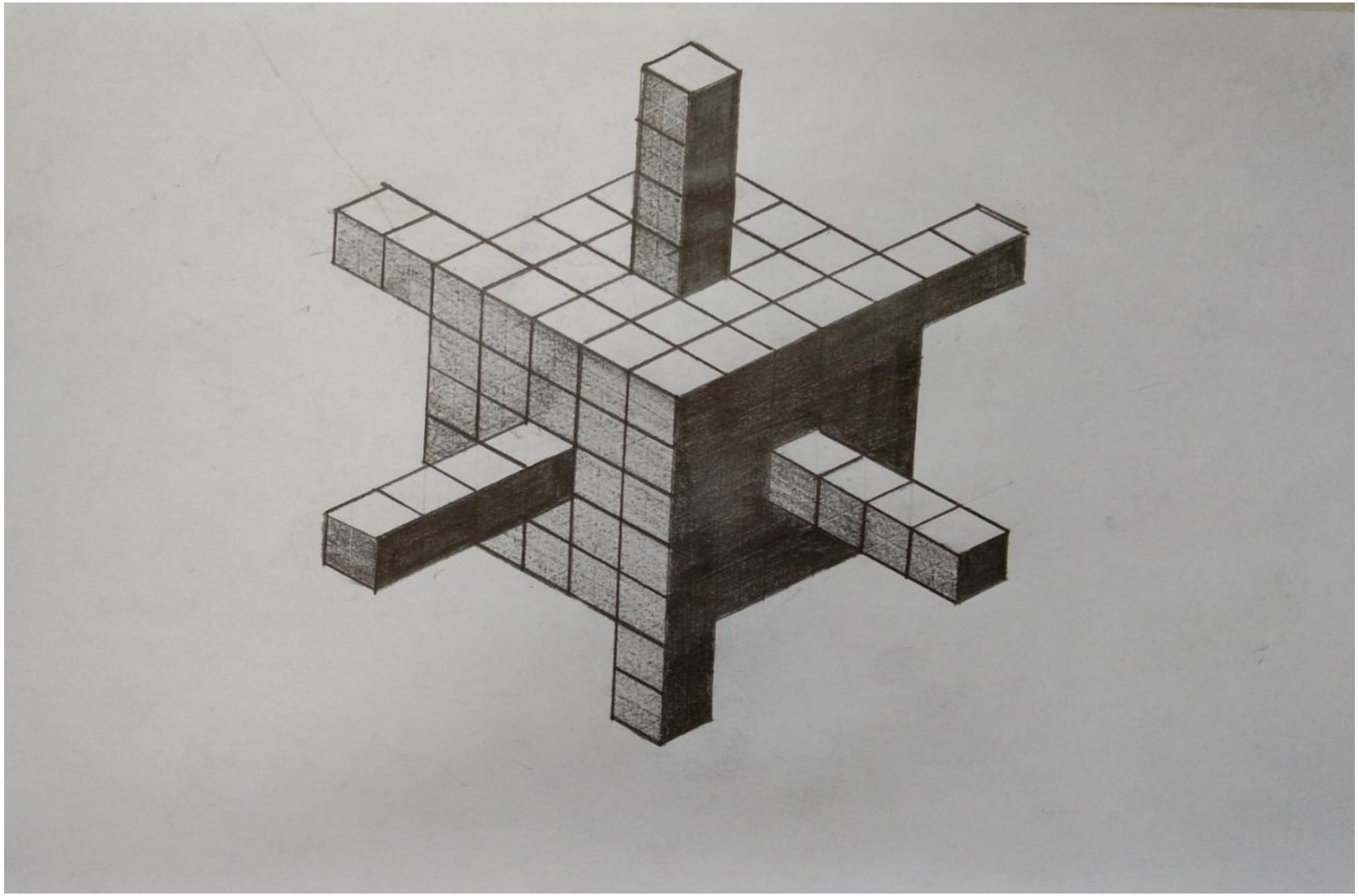


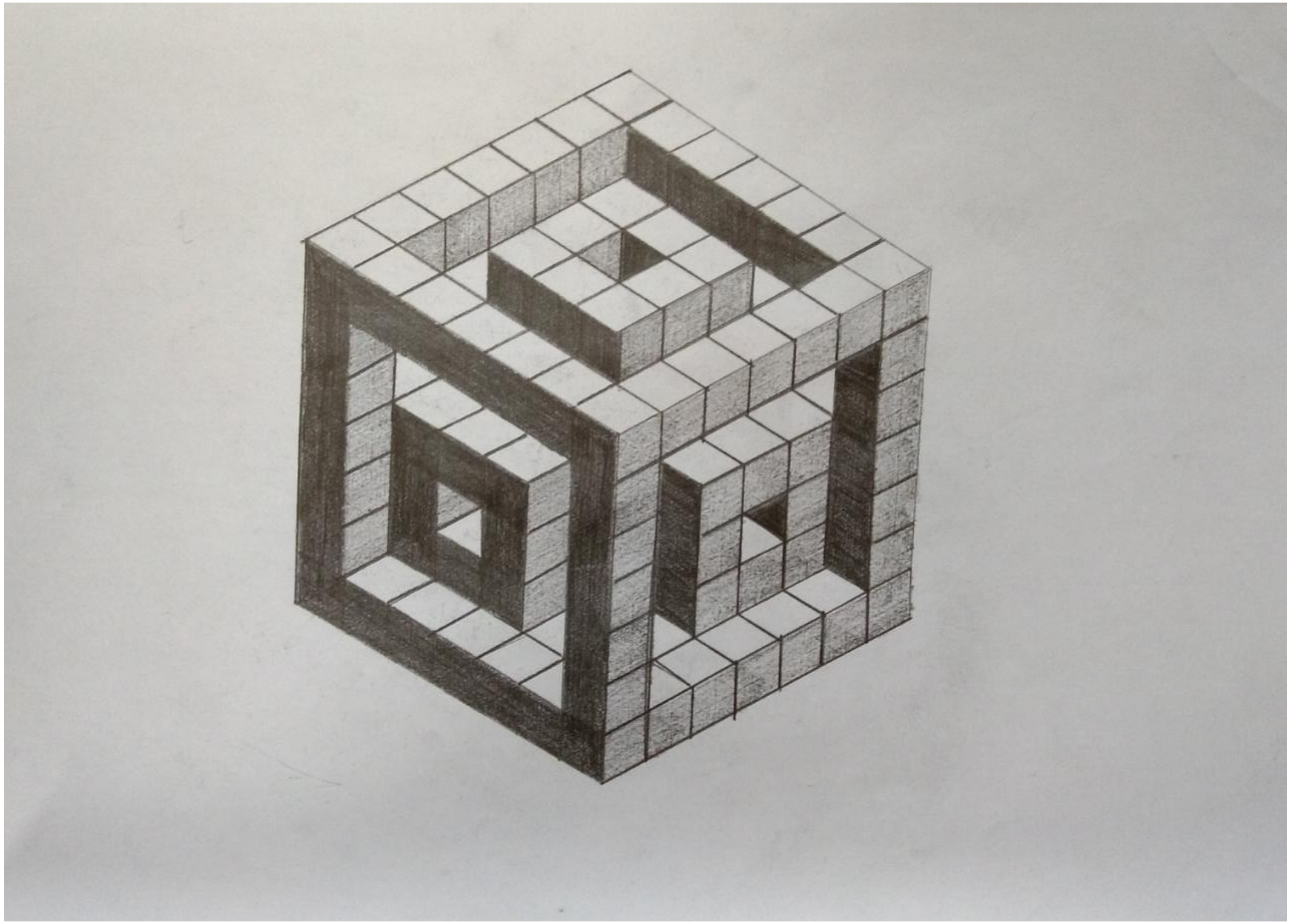


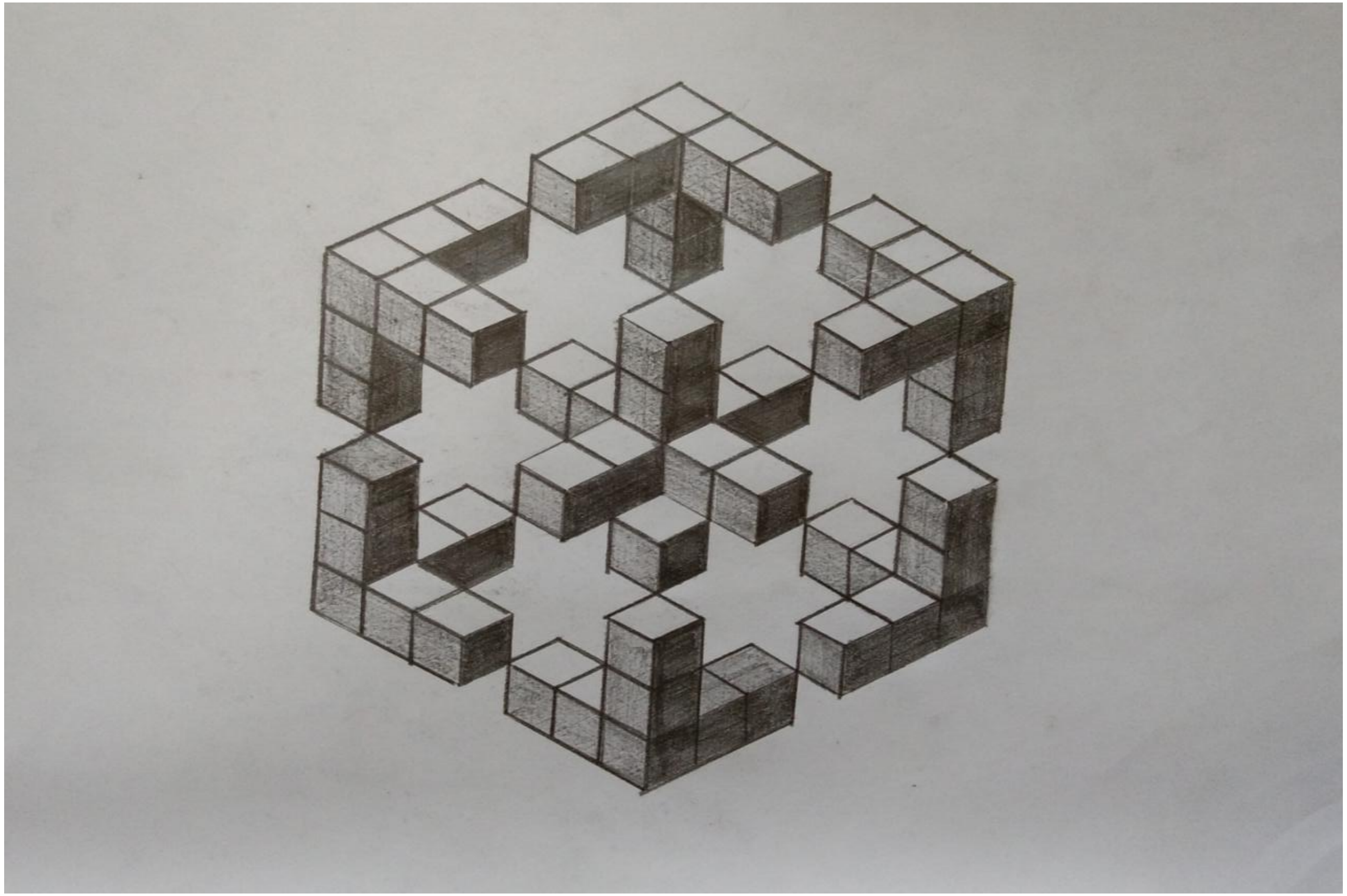


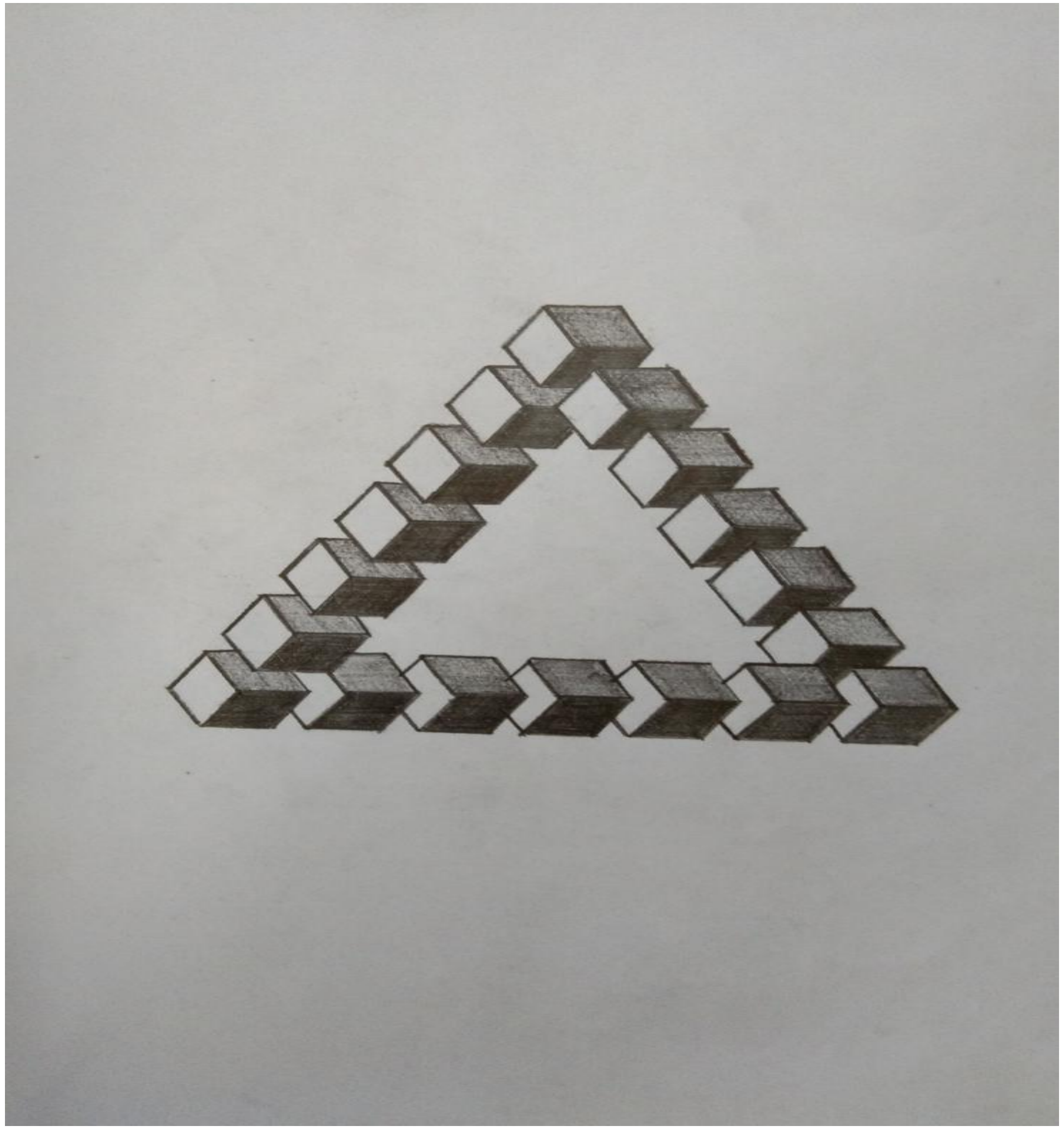




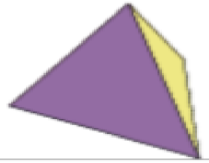
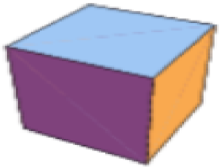
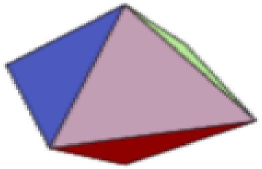
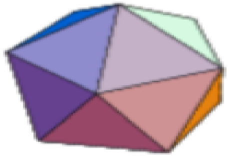
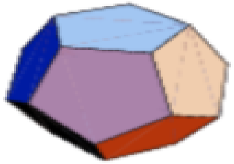








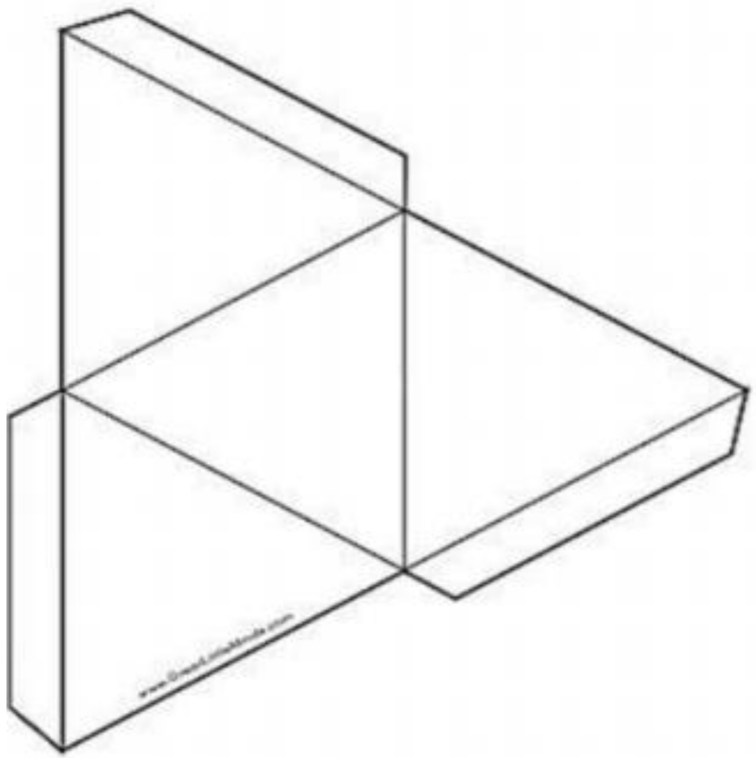
PLATONIC SOLIDS

Name	Solid	Surfaces meets at each vertex	Face	Vertices	Edges	Plato's Representation
Tetrahedron		03	04	04	06	Fire
Cube		03	06	08	12	Earth
Octahedron		04	08	06	12	Air
Icosahedron		05	20	12	30	Water
Dodecahedron		03	12	20	30	Universe

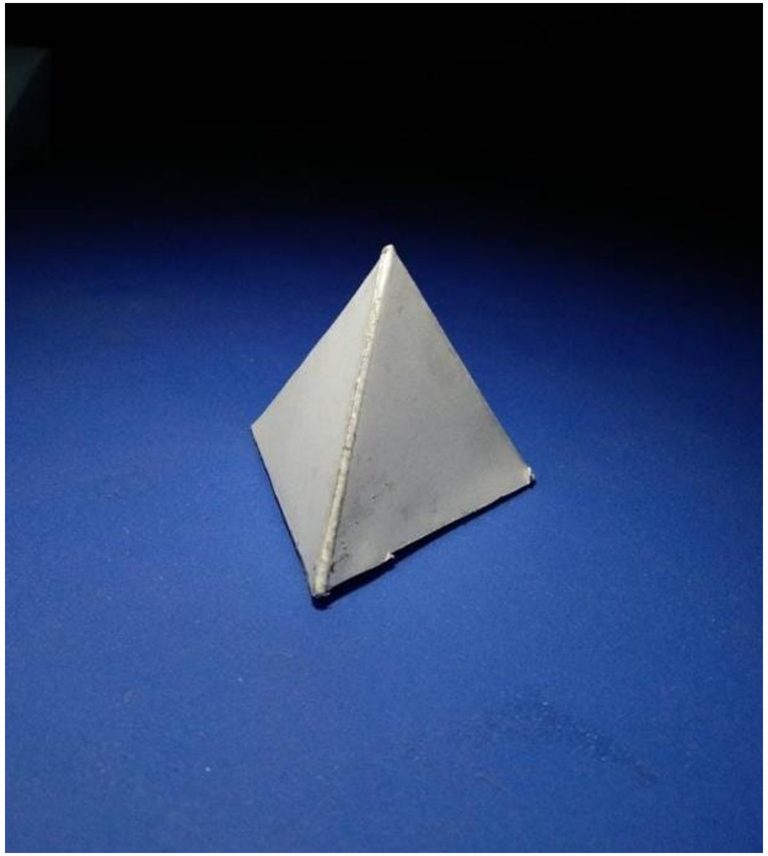
TETRAHEDRON

A tetrahedron is a three-dimensional form with four equilateral triangles. A regular tetrahedron is one in which all four faces are equilateral triangles. It is one of the five regular platonic solids, which have been known since antiquity. The tetrahedron is a polyhedron, composed of four triangular faces, three of which meet at each corner or vertex. It has six edges and four vertices, a displayed in the table given below.

Platonic Solid	Model	Faces	Edges	Vertices
Tetrahedron		04	06	04



Tetrahedron Net

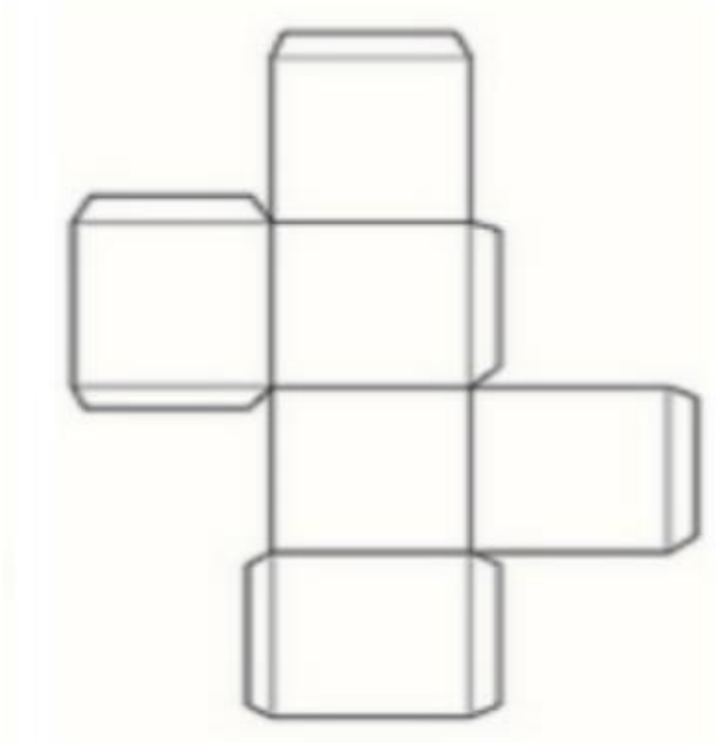


3D Tetrahedron Model

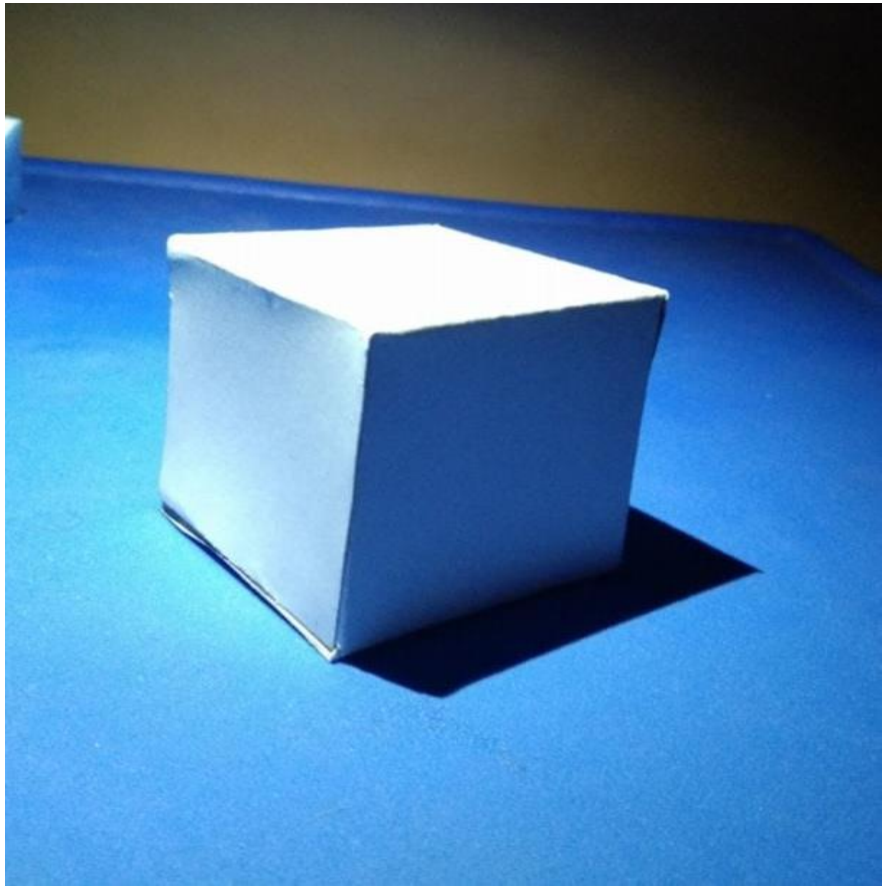
CUBE

A cube is a region of space formed by six identical square faces joined along their edges. Three edges join at each corner to form a vertex. The cube can also be called a regular hexahedron. It is one of the five regular polyhedrons, which are also sometimes referred to as the Platonic solids. In another words, a cube is a three dimensional form that features all right angles and a height, width and depth that are all equal. A cube has six square faces, eight point vertices and twelve edges. A cube is a special geometric form that falls into a number of groups including platonic solids and regular hexahedrons. A cube has the largest volume of all cuboids with a certain surface area. Most dice are cube shaped, featuring the numbers one to six on the different faces.

Platonic Solid	Model	Faces	Edges	Vertices
Cube		06	12	08



Cube Net

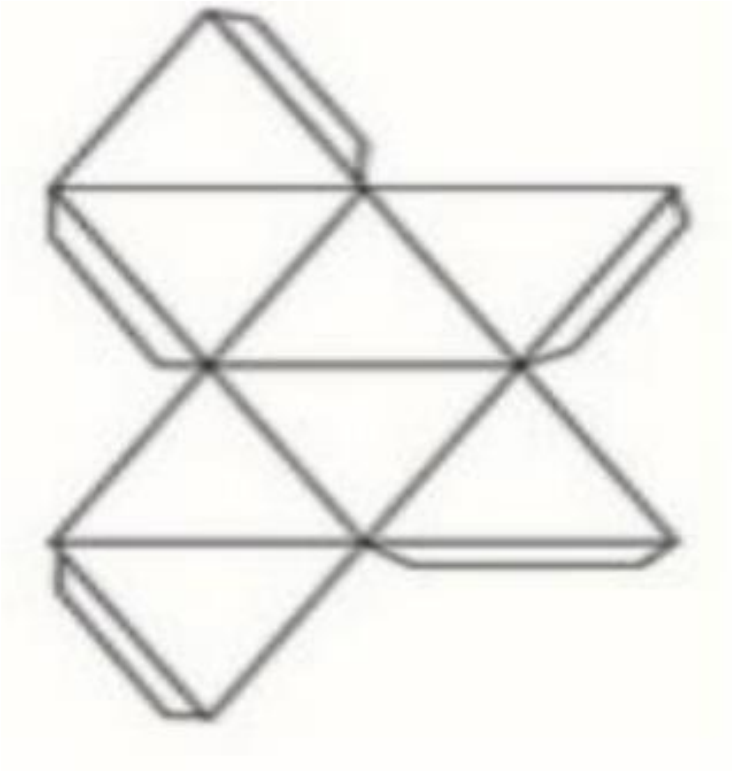


3D Cube Model

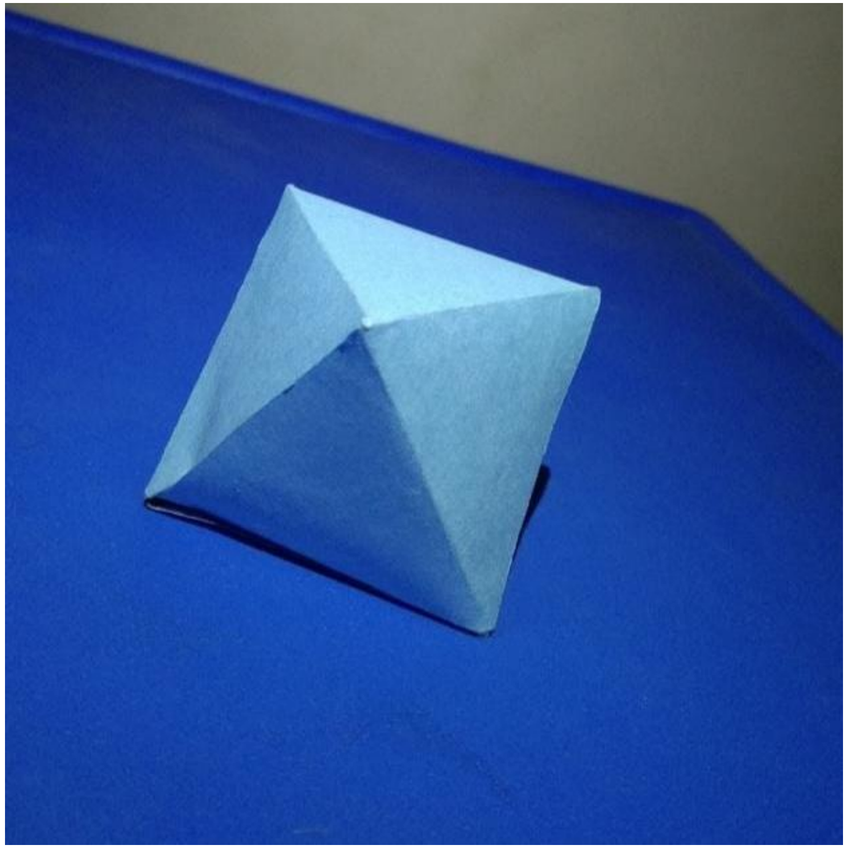
OCTAHEDRON

The octahedron is the next platonic polyhedron with eight faces. A regular octahedron has faces that are all equilateral triangles. Apparently, a regular octahedron looks like it was made by gluing together the bases of two square-based pyramids or in another words, a regular octahedron is the dual polyhedron of a cube. An octahedron has eight triangle faces, six point vertices and twelve edges.

Platonic Solid	Model	Faces	Edges	Vertices
Octahedron		08	12	06



Octahedron Net

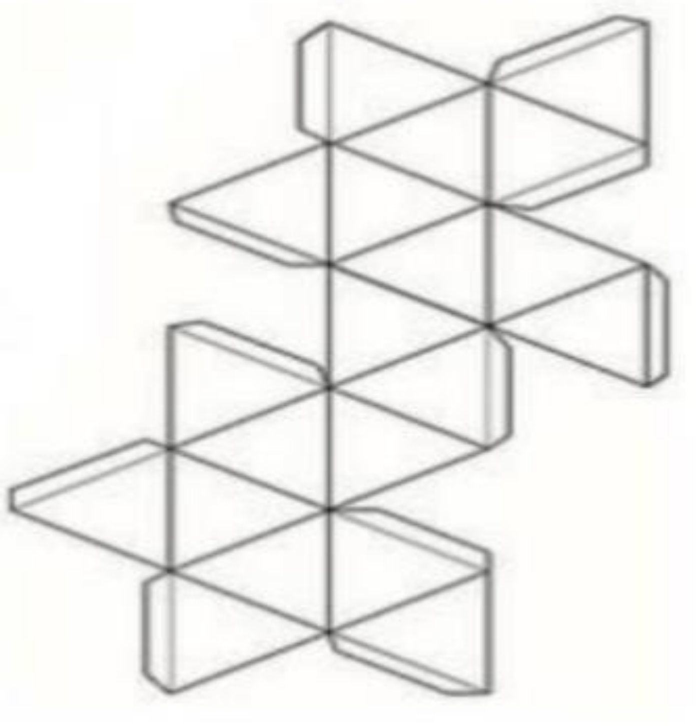


3D Octahedron Model

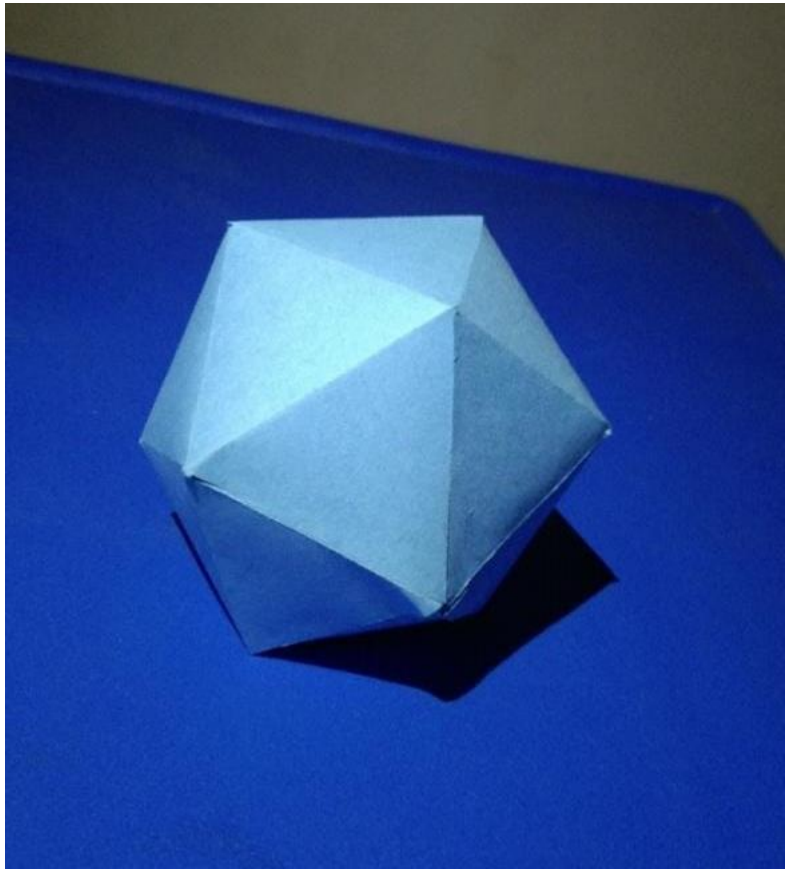
ICOSAHEDRON

Several designers and architects had explored icosahedron
in many ways, ranging from product design to building constructions. The icosahedron is built around the pentagon and the golden section. At first glance this may seem absurd, since every face of the icosahedron is an equilateral triangle. It turns out, however, that the triangular faces of the icosahedron result from its pentagonal nature.

Platonic Solid	Model	Faces	Edges	Vertices
Icosahedron		20	30	12



Icosahedron Net

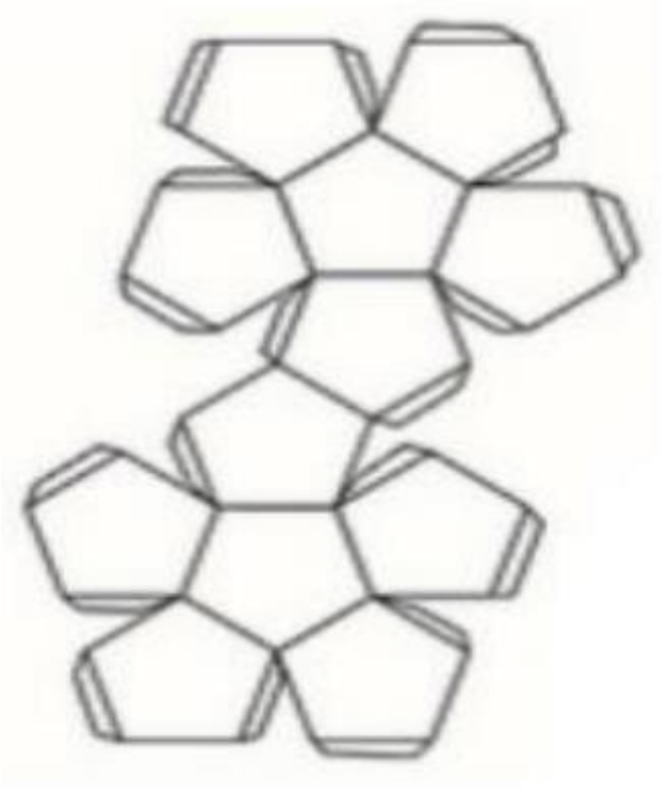


3D Icosahedron Model

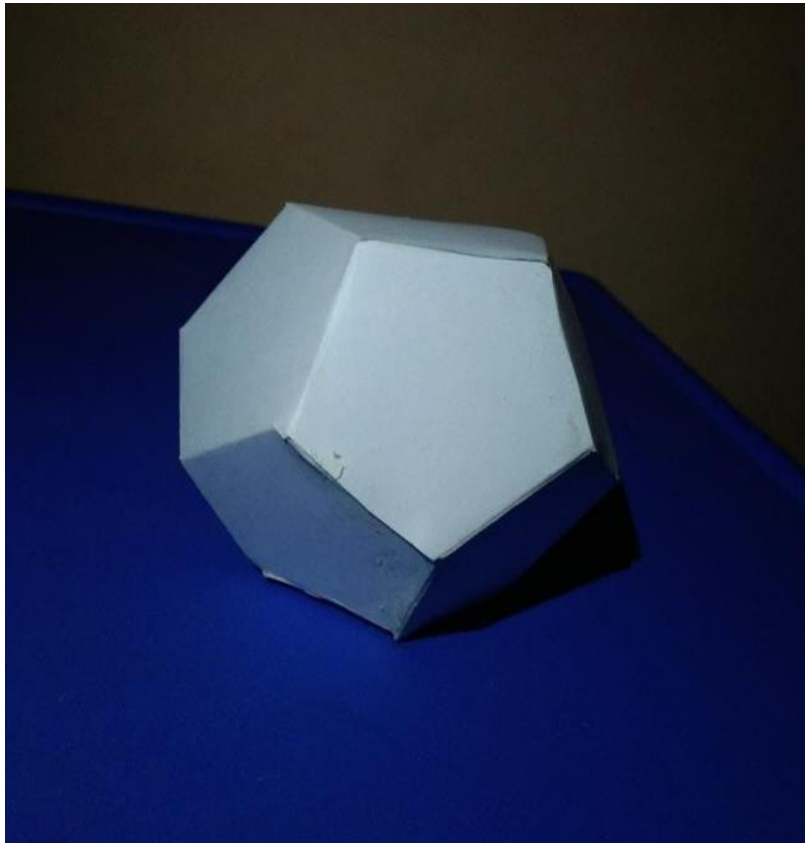
DODECAHEDRON

A dodecahedron has twelve pentagon faces, twenty point vertices and thirty edges. It is called a dodecahedron because it is a polyhedron that has 12 faces, because in Greek language, „dodeca‟ means ‘12’. Please note, the duel of dodecahedron is icosahedron. Interestingly, Bertrand Russell wrote a short story in 1954 and expressed about dodecahedron, as: “...the number 5 said: I am the number of fingers on a hand. I make pentagons and pentagrams. And but for me dodecahedra could not exist; and, as everyone knows, the universe is a dodecahedron. So, but for me, there could be no universe.”

Platonic Solid	Model	Faces	Edges	Vertices
Dodecahedron		12	30	20



Dodecahedron Net



3D Dodecahedron Model

ARCHIMEDEAN SOLIDS

Name	Solid	Faces & Sides	Faces Types	Vertices	Edges
Truncated Tetrahedron		3.6^2	$4F_{3.}\ 4F_6$	12	18
Cuboctahedron		$3^2.4^2$	$8F_{3.}\ 6F_4$	12	24
Truncated Cube		3.8^2	$8F_{3.}\ 6F_8$	24	36

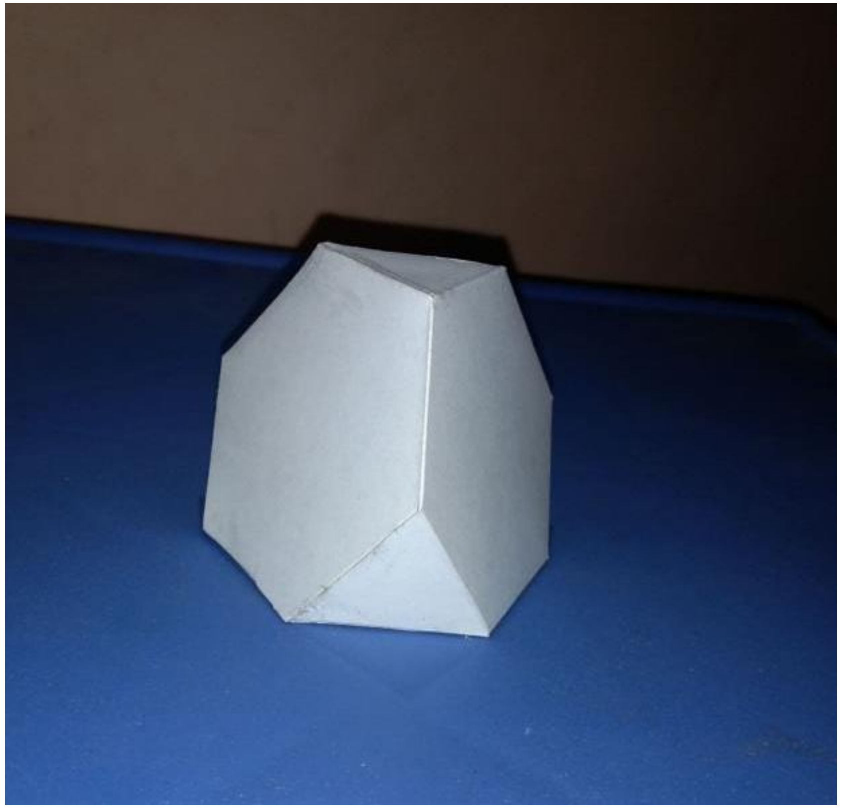
Truncated Octahedron		4.6^2	$6F_4$. $8F_6$	24	36
Small Rhombicu-Boctahedron		3.4^3	$8F_3$. $18F_4$	24	48
Great Rhombicuboctahedron Or Truncated Cuboctahedron		4.6.8	$12F_4$. $8F_6$. $6F_8$	48	72
Snub Cube		$3^4.4$	$32F_3$. $6F_4$	24	60
Icosidodecahedron		$3^2.5^2$	$20F_3$. $12F_5$	30	60
Truncated Dodecahedron		3.10^2	$20F_3$. $12F_{10}$	60	90
Truncated Icosahedron		5.6^2	$12F_5$. $20F_6$	60	90
Small Rhombicosidodecahedron		3.4.5.4	$20F_3$. $30F_4$. $12F_5$	60	120
Great Rhombicosidodecahedron or Truncated Icosidodecahedron		4.6.10	$30F_4$. $20F_6$. $12F_{10}$	120	180
Snub Dodecahedron		$3^4.5$	$80F_3$. $12F_5$	60	150

TRUNCATED TETRAHEDRON

The Truncated Tetrahedron is a 3-D uniform polyhedron, bounded by 4 hexagonal faces and 4 triangular faces. Among all of the Archimedean polyhedra it is the simplest 3-D form. It may be constructed by truncating the tetrahedron at 1/3 of its edge length. The truncated tetrahedron has 18 edges, 6 of which correspond with the 6 edges of the tetrahedron. It has 12 vertices.

Archimedean Solid	Model	Faces & Sides	Faces Types	Vertices	Edges
Truncated Tetrahedron		3.6^2	4F3. 4F6	12	18

Truncated tetrahedron Net



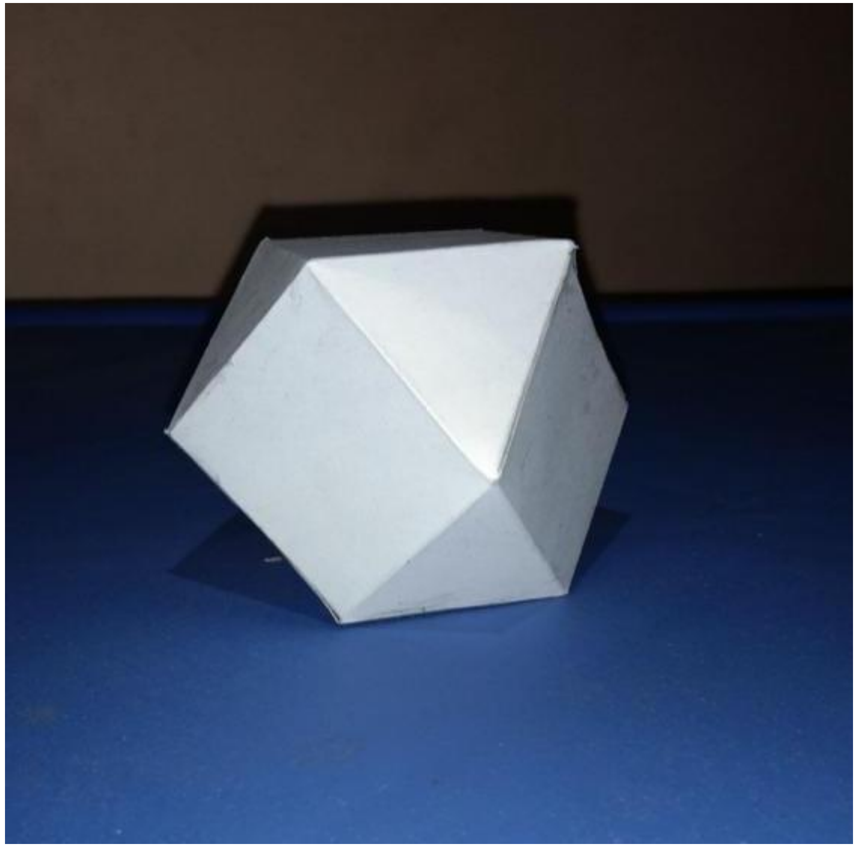
3D Truncated Tetrahedron Model

CUBOCTAHEDRON

The Cuboctahedron is the next uniform polyhedron, which is bounded by 6 squares and 8 triangles. It is edge-uniform and its two different types of faces alternate around each vertex, so it is also a quasi-regular polyhedron. It may be constructed by truncating a cube or an octahedron at the midpoints of its edges- this process is known as rectification.

Archimedean Solid	Model	Faces & Sides	Faces Types	Vertices	Edges
Cuboctahedron		$3^2.4^2$	$8F_{3.}\ 6F_4$	12	24

Cuboctahedron Net

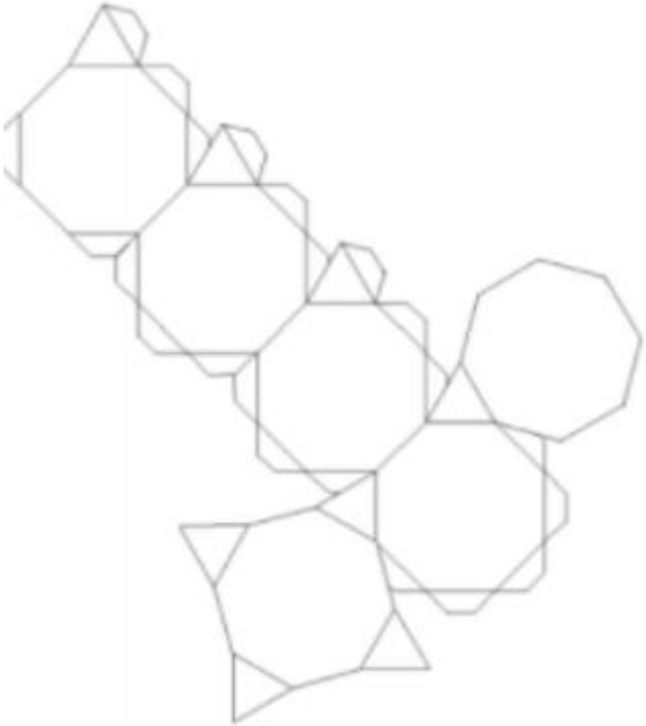


3D Cuboctahedron Model

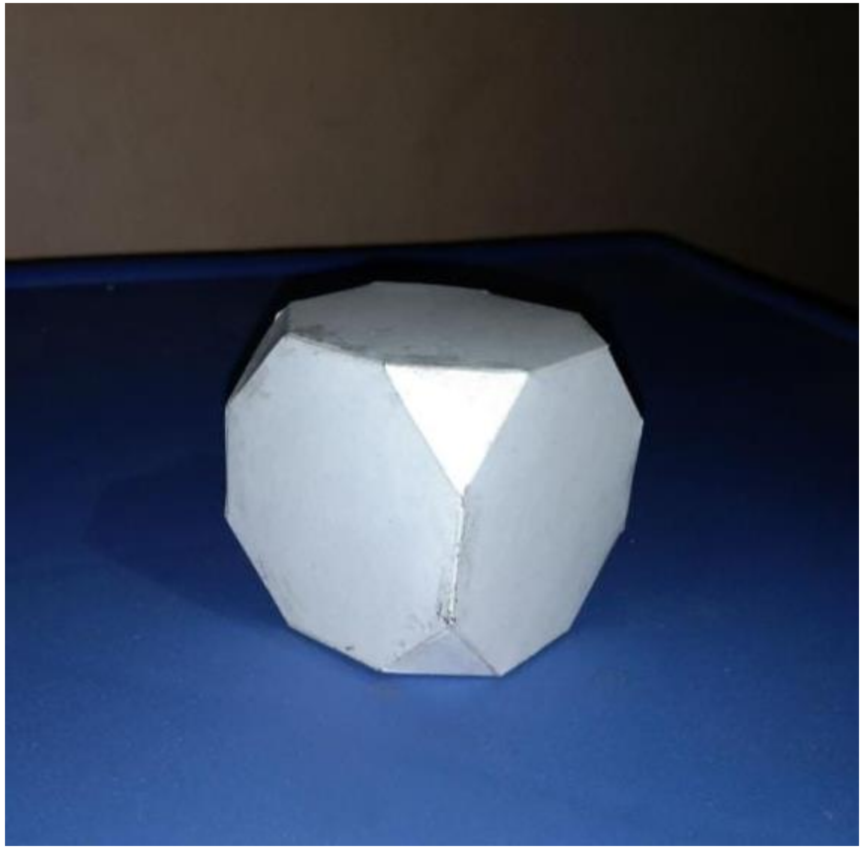
TRUNCATED CUBE

The Truncated Cube is a 3D uniform polyhedron bounded by 8 triangles and 6 octagons. It may be constructed by truncating the cube's vertices at (2-√2) of its edge length. More simply, it may be constructed by radially expanding the cube's edges outwards by 1/√2 of its edge length and taking the convex hull.It may also be constructed by radially expanding the triangular faces of the Cuboctahedron outwards.

Archimedean Solid	Model	Faces & Sides	Faces Types	Vertices	Edges
Truncated Cube		3.8^2	$8F_{3.}\ 6F_8$	24	36



Truncated Cube

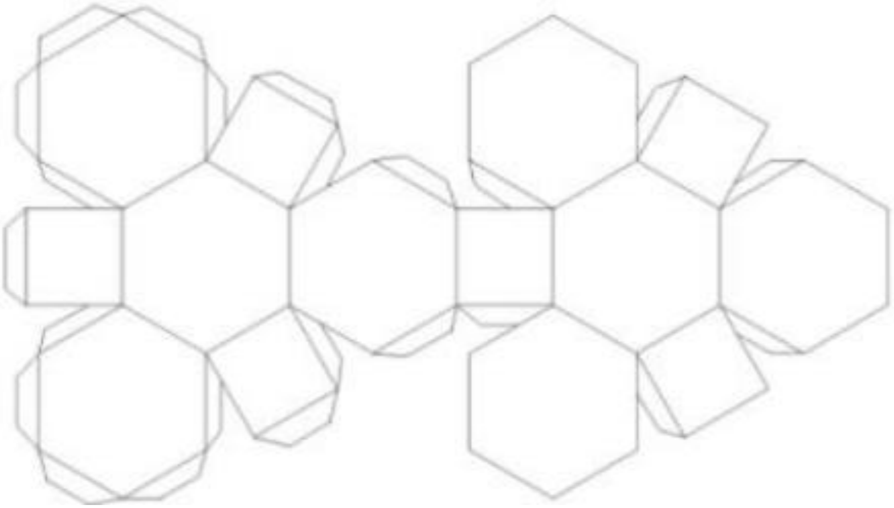


3D Truncated Cube Model

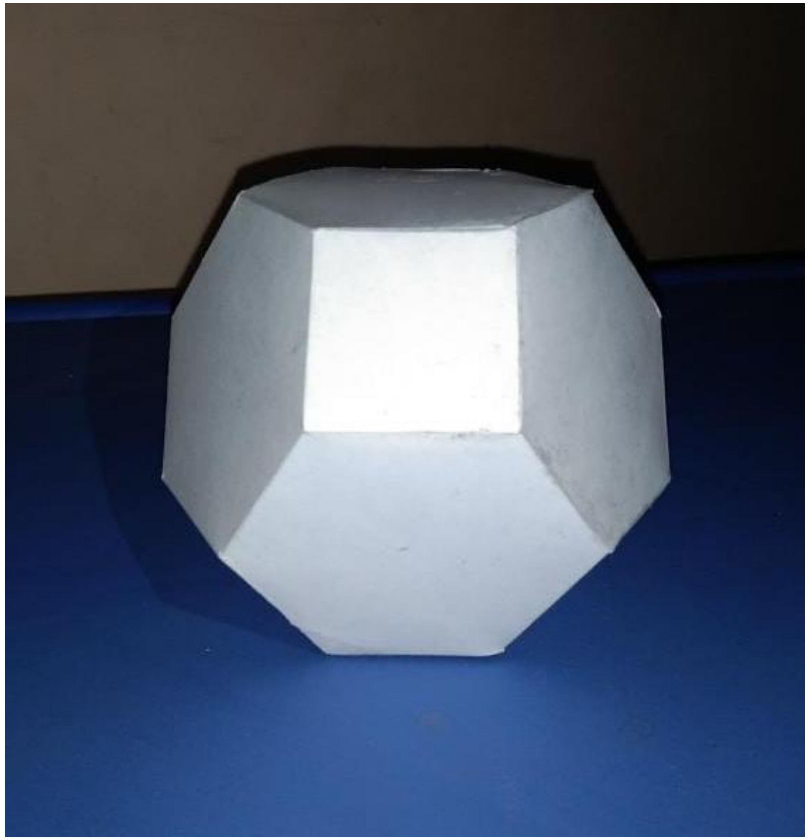
TRUNCATED OCTAHEDRON

The Truncated Octahedron is a 3D uniform polyhedron bounded by 8 hexagonal faces and 6 squares. It may be constructed by truncating the octahedron at 1/3 of its edge length.

Archimedean Solid	Model	Faces & Sides	Faces Types	Vertices	Edges
Truncated Octahedron		4.6^2	$6F_{4.}\ 8F_6$	24	36



Truncated Octahedron Net

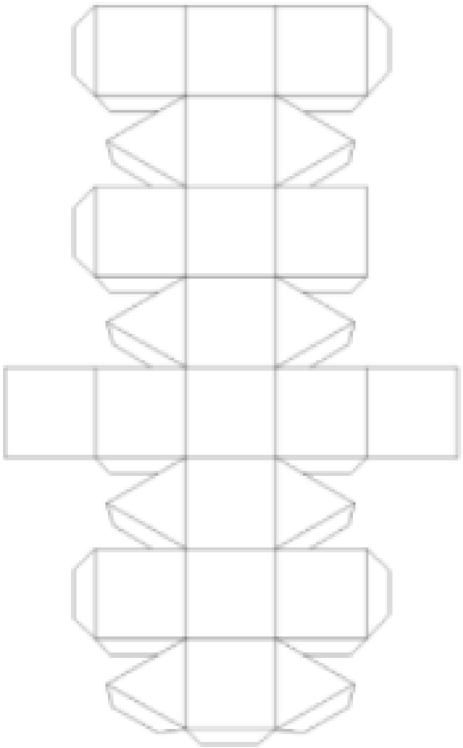


3D Truncated Octahedron Model

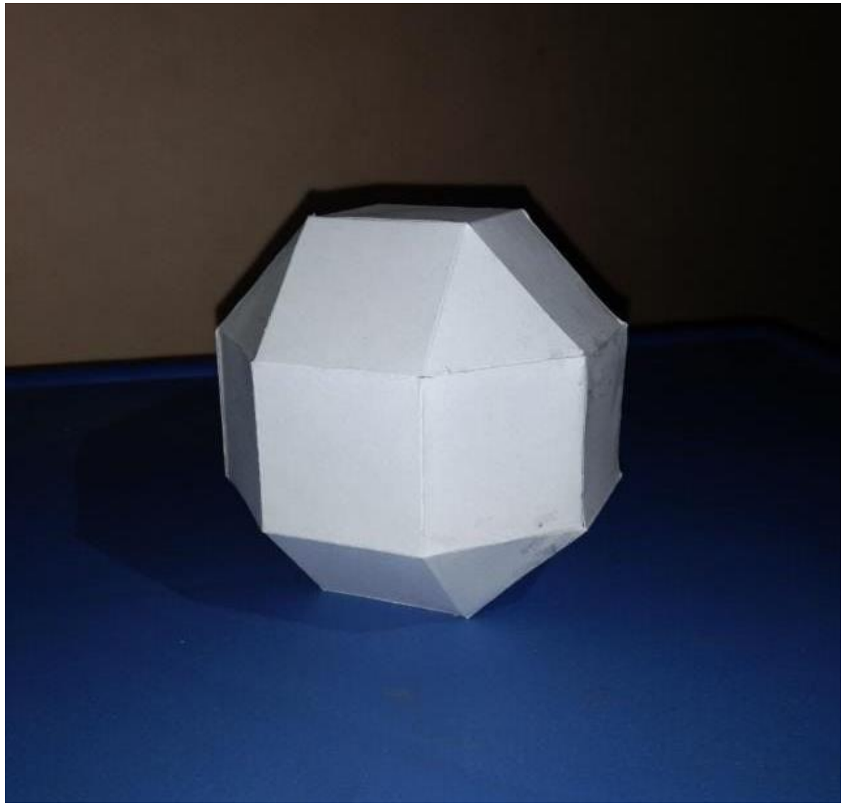
SMALL RHOMBICUBOCTAHEDRON

The Small Rhombicuboctahedron, is a 3D uniform polyhedron, which is bounded by 8 triangles and 6+12=18 squares. It may be constructed by radially expanding the square faces of the cube outwards or equivalently, radially expanding the triangular faces of the octahedron outwards.

Archimedean Solid	Model	Faces & Sides	Faces Types	Vertices	Edges
Small Rhombicuboctahedron		3.4^3	$8F_3$. $18F_4$	24	48



Small Rhombicuboctahedron Net

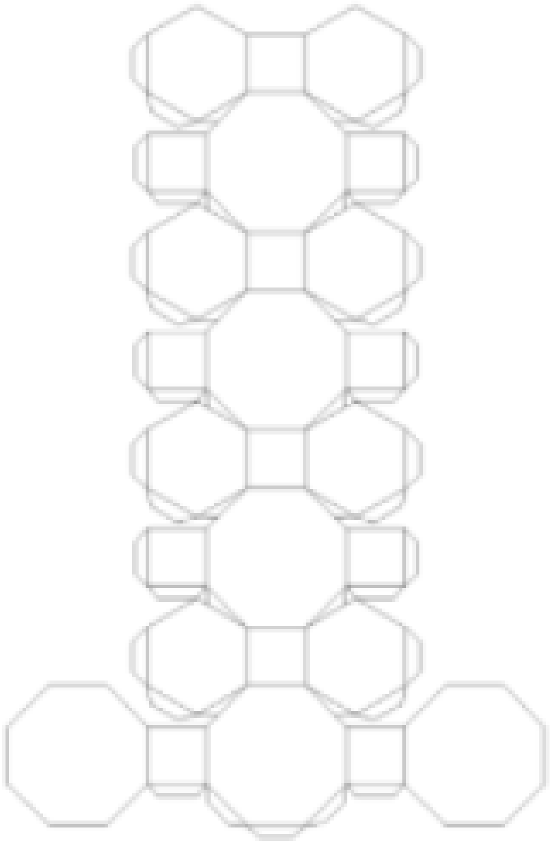


3D Small Rhombicuboctahedron Model

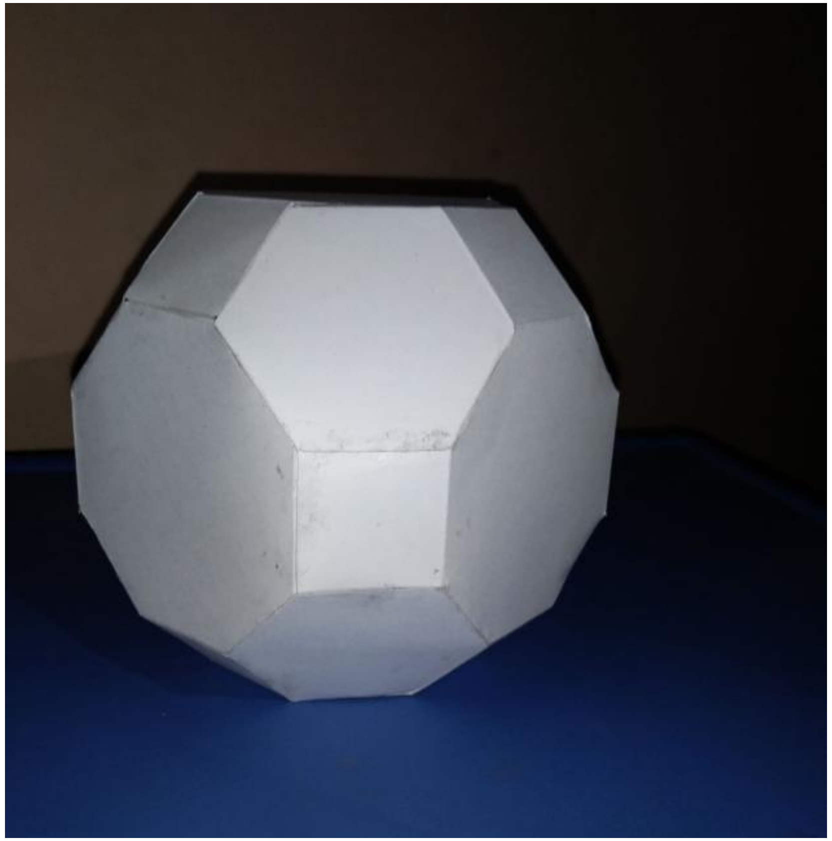
GREAT RHOMBICUBOCTAHEDRON

The Great Rhombicuboctahedron is a 3D uniform polyhedron bounded by 8 hexagons, 12 squares and 6 octagons. It may be constructed by radially expanding the octagonal faces of the truncated cube outwards or equivalently, radially expanding the hexagonal faces of the truncated octahedron or the non-axial square faces of the Rhombicuboctahedron. The Great Rhombicuboctahedron is also known as the truncated Cuboctahedron. Truncating the Cuboctahedron does not yield a uniform polyhedron, only a non-uniform topological equivalent of the great Rhombicuboctahedron. The correct derivation is as described above.

Archimedean Solid	Model	Faces & Sides	Faces Types	Vertices	Edges
Great Rhombicuboctahedron		4.6.8	$12F_{4.}\ 8F_{6.}\ 6F_8$	48	72



Great Rhombicuboctahedron Net



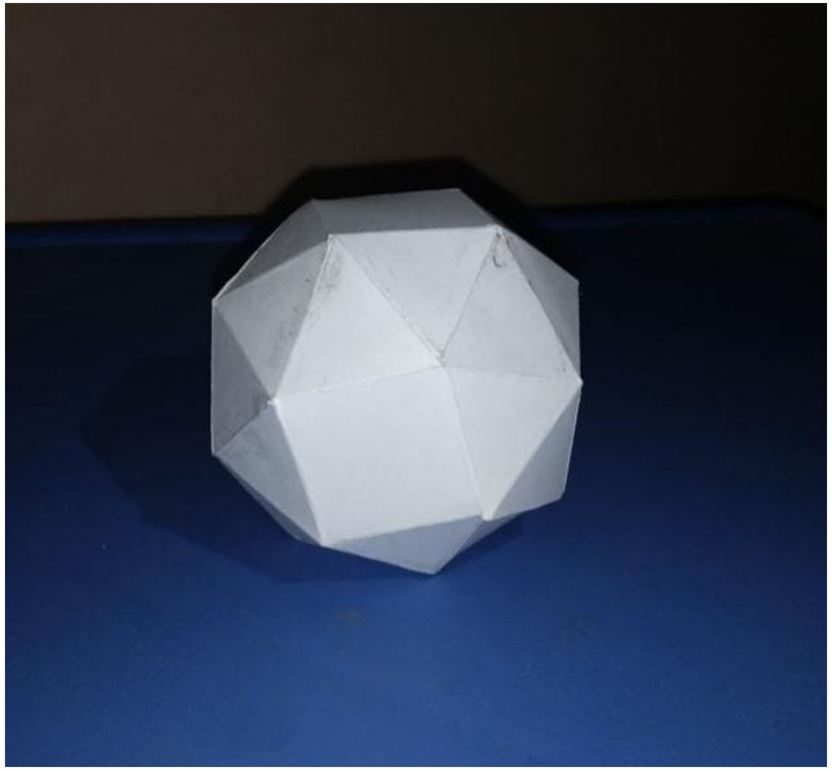
3D Great Rhombicuboctahedron Model

SNUB CUBE

The Snub Cube is a 3D uniform polyhedron bounded by 6 squares and 8+24=32 triangles. It is constructed by alternating the vertices of a suitably-proportioned, non-uniform Great Rhombicuboctahedron.

Archimedean Solid	Model	Faces & Sides	Faces Types	Vertices	Edges
Snub Cube		$3^4.4$	$32F_3, 6F_4$	24	60

Snub Cube Net



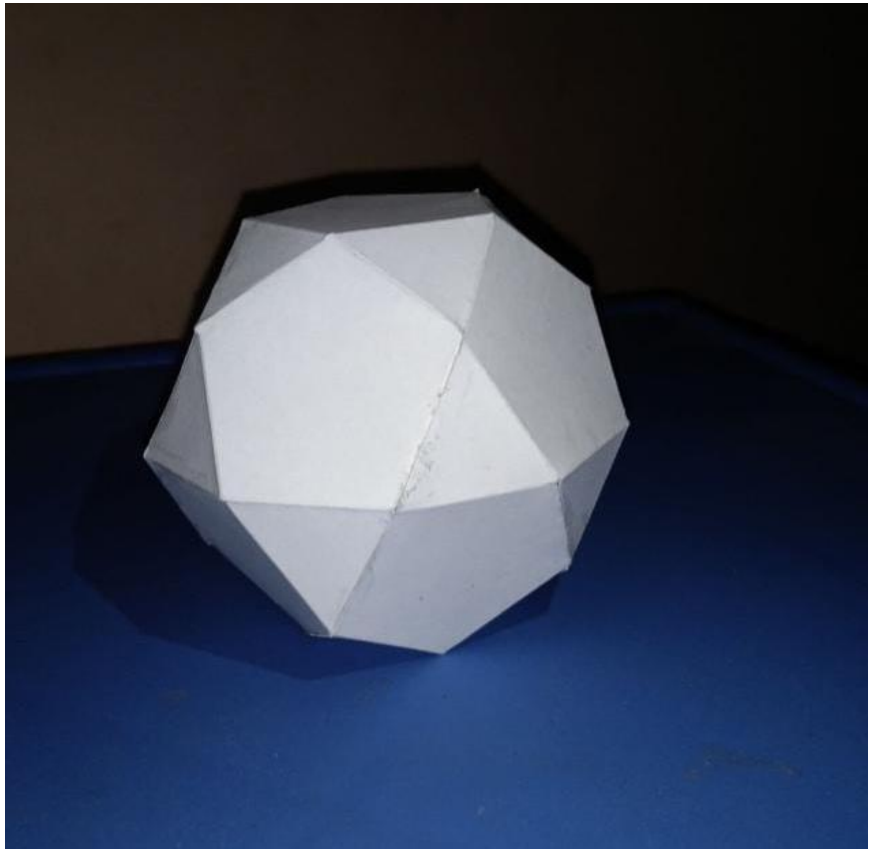
3D Snub Cube Model

ICOSIDODECAHEDRON

The Icosidodecahedron is a uniform polyhedron bounded by 12 pentagons and 20 triangles. It is edge-uniform and its two kinds of faces alternate around each vertex, so it is also a quasi-regular polyhedron. It may be constructed by truncating the dodecahedron or the icosahedron at the midpoints of its edges.

Archimedean Solid	Model	Faces & Sides	Faces Types	Vertices	Edges
Icosidodecahedron		$3^2.5^2$	$20F_{3.}$ $12F_5$	30	60

Icosidodecahedron Net

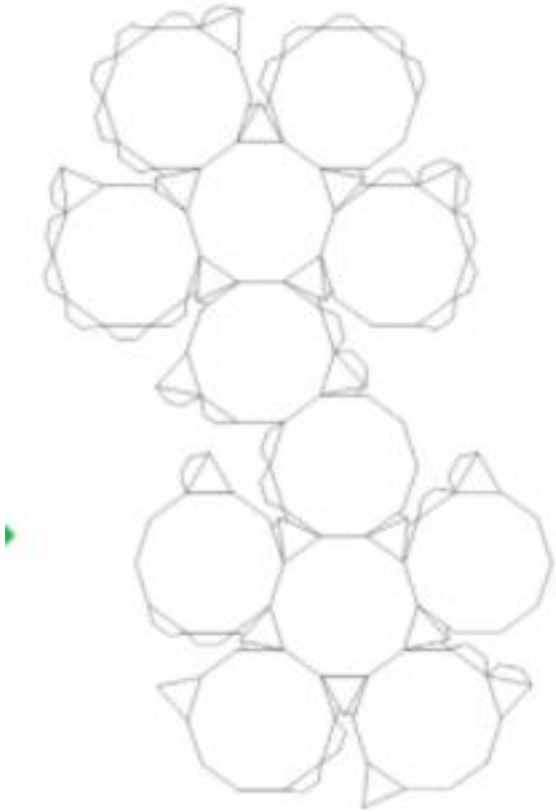


3D Icosidodecahedron Model

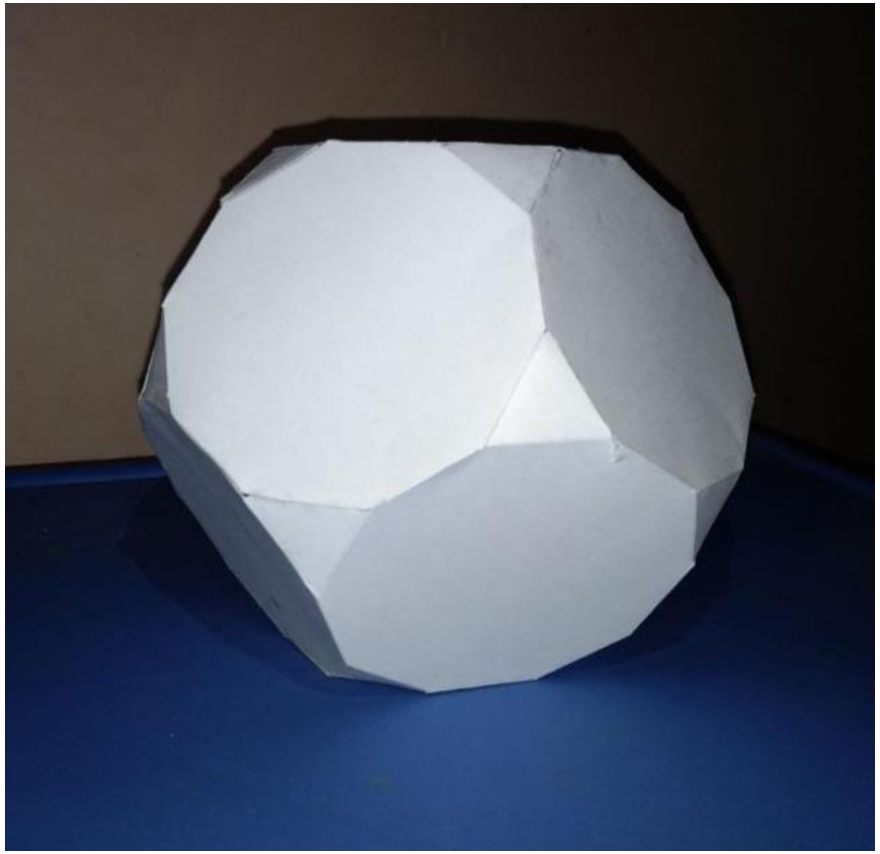
TRUNCATED DODECAHEDRON

The Truncated Dodecahedron is a 3-D uniform polyhedron, which is bounded by 20 triangles and 12 decagons. It may be constructed by truncating the dodecahedron's vertices such that its pentagonal faces become decagons. Alternatively, it may be constructed by radially expanding the edges of the dodecahedron outwards, thus turning vertices into triangles and pentagons into decagons.

Archimedean Solid	Model	Faces & Sides	Faces Types	Vertices	Edges
Truncated Dodecahedron		3.10^2	$20F_3,\ 12F_{10}$	60	90



Truncated Dodecahedron Net

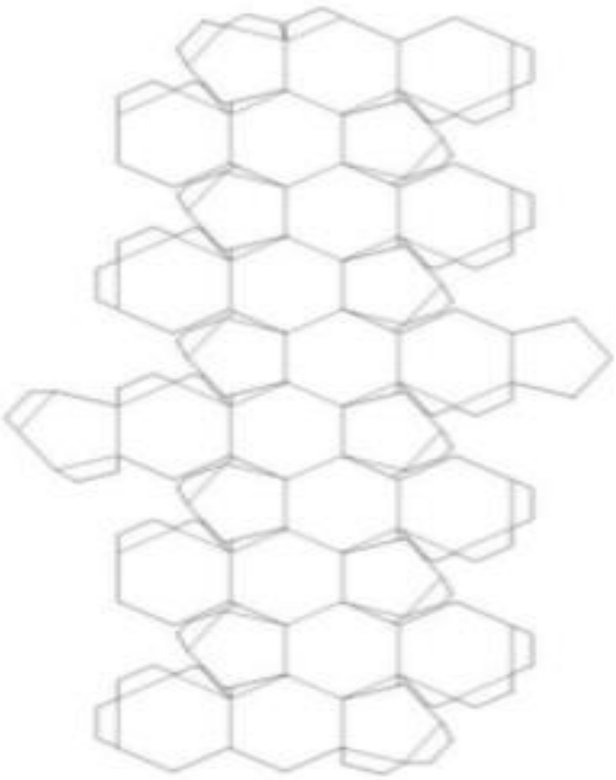


3D Truncated Dodecahedron Model

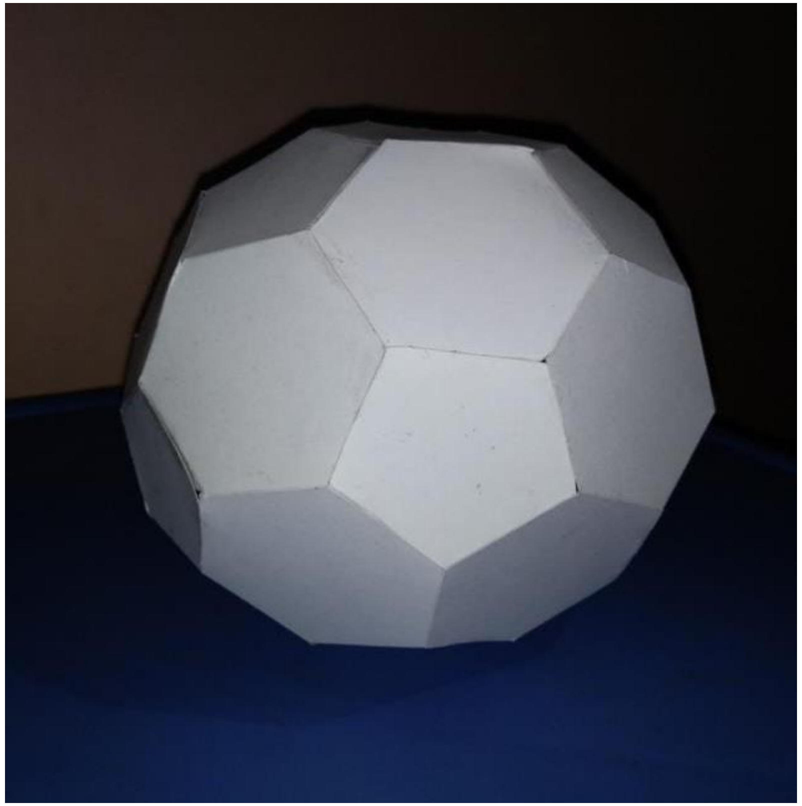
TRUNCATED ICOSAHEDRON

The Truncated Icosahedron is a 3D uniform polyhedron bounded by 20 hexagonal faces and 12 pentagonal faces. It is one of the Archimedean polyhedra. It may be constructed by truncating the icosahedron at 1/3 of its edge length and has 90 edges and 60 vertices. The truncated icosahedron is widely recognized as the stitching pattern commonly used for soccer balls and as the shape of the buckminsterfullerene molecule-C60. This latter association has given this playing-ball a pet name as-Buckyball!

Archimedean Solid	Model	Faces & Sides	Faces Types	Vertices	Edges
Truncated Icosahedron		5.6^2	$12F_5.\ 20F_6$	60	90



Truncated Icosahedron Net



3D Truncated Icosahedron Model

SMALL RHOMBICOSIDODECAHEDRON

The Small Rhombicosidodecahedron, is a 3-D uniform polyhedron bounded by 20 triangles, 30 squares and 12 pentagons. It may be constructed by radially expanding the pentagonal faces of the dodecahedron outwards or equivalently, the triangular faces of the icosahedron outwards. The 12 pentagonal faces correspond with the faces of the dodecahedron, the 20 triangular faces correspond with the faces of the icosahedron and the 30 square faces correspond with the edges of both the dodecahedron and the icosahedron.

Archimedean Solid	Model	Faces & Sides	Faces Types	Vertices	Edges
Small Rhombicosidodecahedron		3.4.5.4	$20F_3$, $30F_4$, $12F_5$	60	120

Small Rhombicosidodecahedron Net

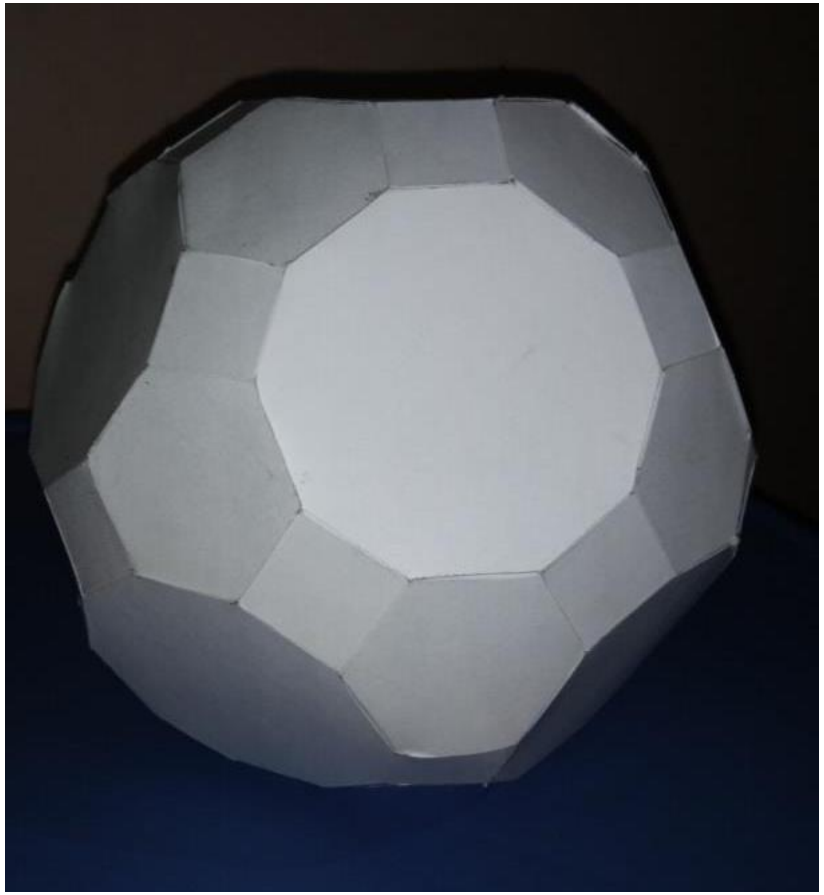
3D Small Rhombicosidodecahedron Model

GREAT RHOMBICOSIDODECAHEDRON

The Great Rhombicosidodecahedron is a 3-D uniform polyhedron bounded by 20 hexagons, 30 squares and 12 decagons. It may be constructed by radially expanding the decagonal faces of the truncated dodecahedron outwards or equivalently, radially expanding the hexagonal faces of the truncated icosahedron or the square faces of the Rhombicosidodecahedron. The Great Rhombicosidodecahedron is also known as the truncated Icosidodecahedron.

Archimedean Solid	Model	Faces & Sides	Faces Types	Vertices	Edges
Great Rhombicosidodecahedron		4.6.10	$30F_{4.}$ $20F_{6.}$ $12F_{10}$	120	180

Great Rhombicosidodecahedron Net



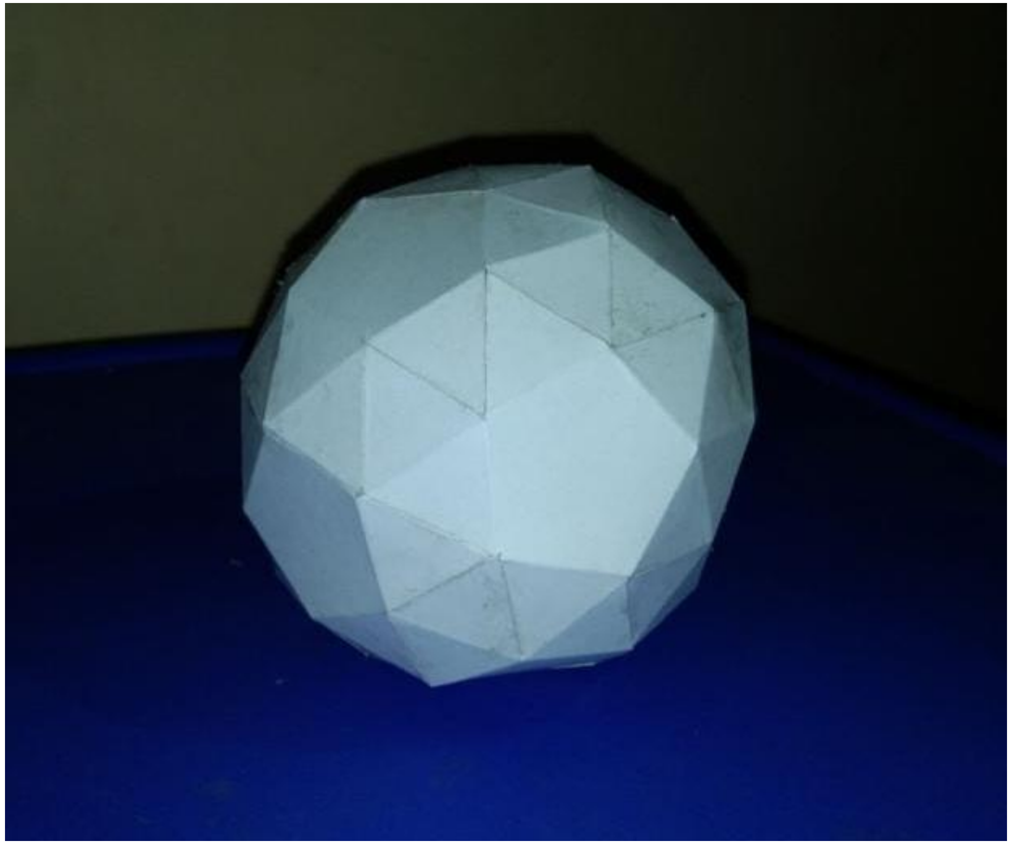
3D Great Rhombicosidodecahedron Model

SNUB DODECAHEDRON

The Snub Dodecahedron is a 3-D uniform polyhedron bounded by 12 pentagons and 20+60=80 triangles. It is constructed by alternating the vertices of a suitably-proportioned, non-uniform Great Rhombicosidodecahedron.

Archimedean Solid	Model	Faces & Sides	Faces Types	Vertices	Edges
Snub Dodecahedron		$3^4.5$	$80F_{3.}$ $12F_5$	60	150

Snub Dodecahedron Net



3D Snub Dodecahedron Model

thank you!