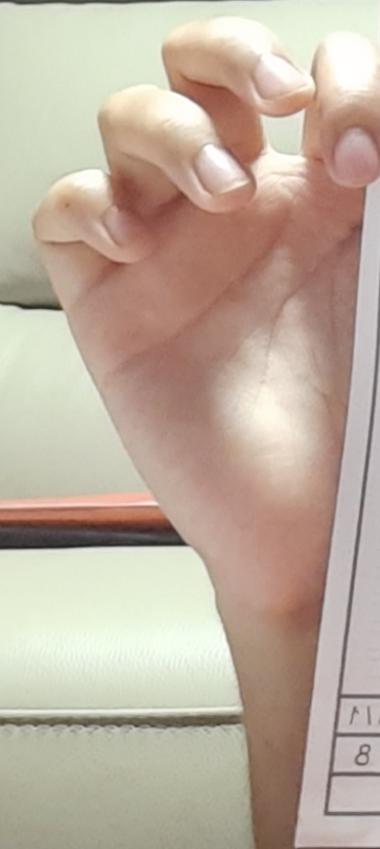


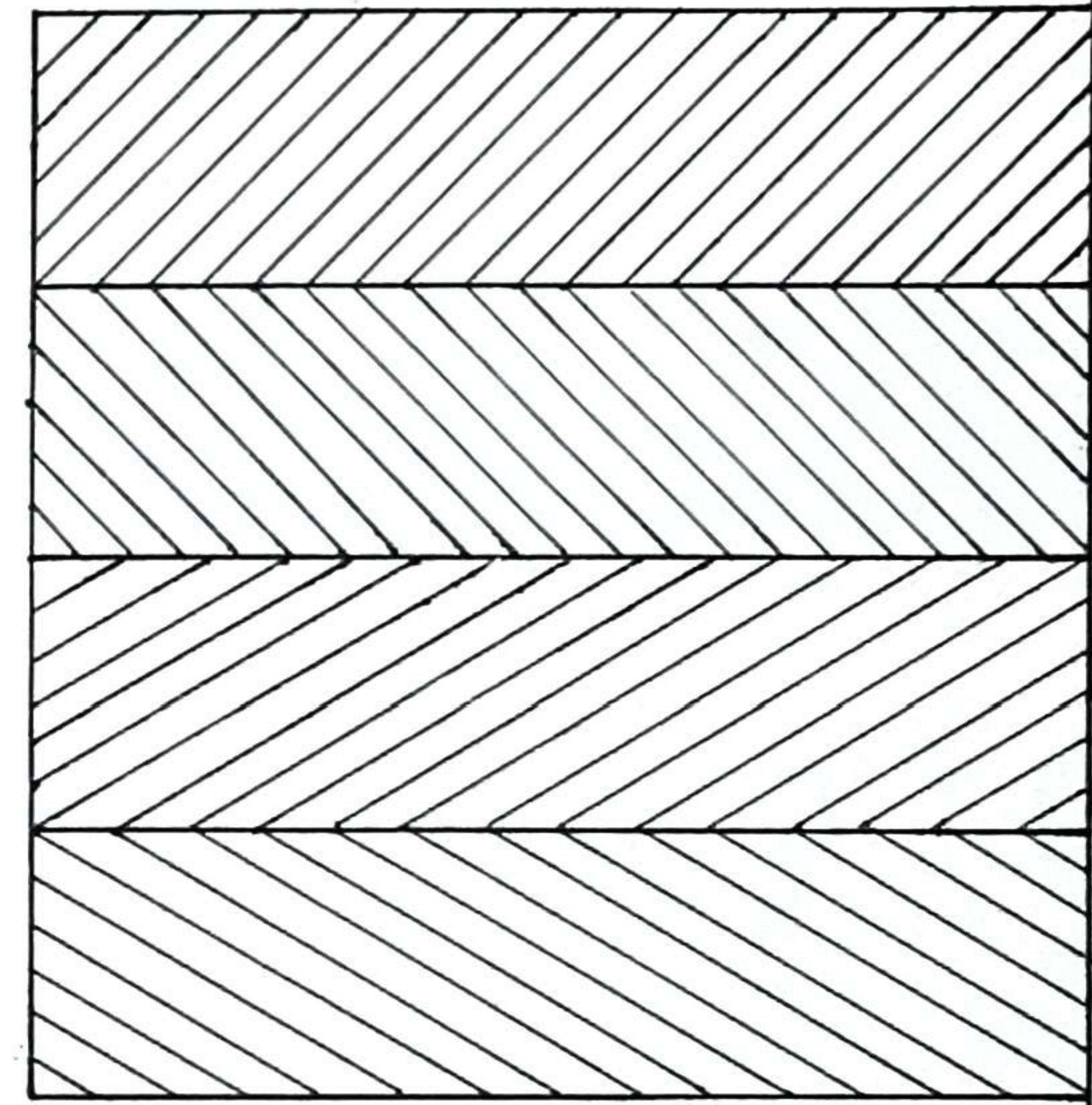
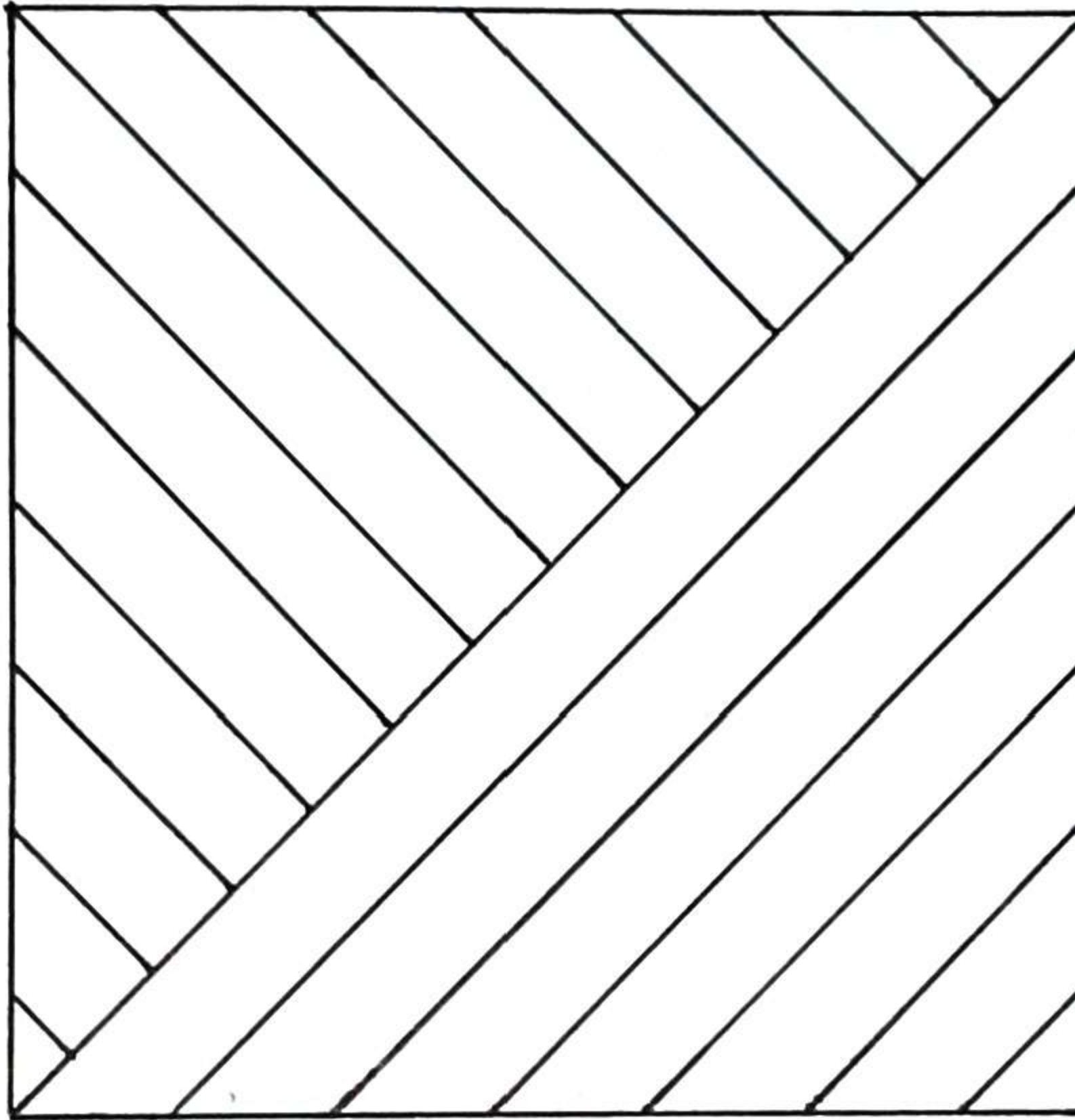
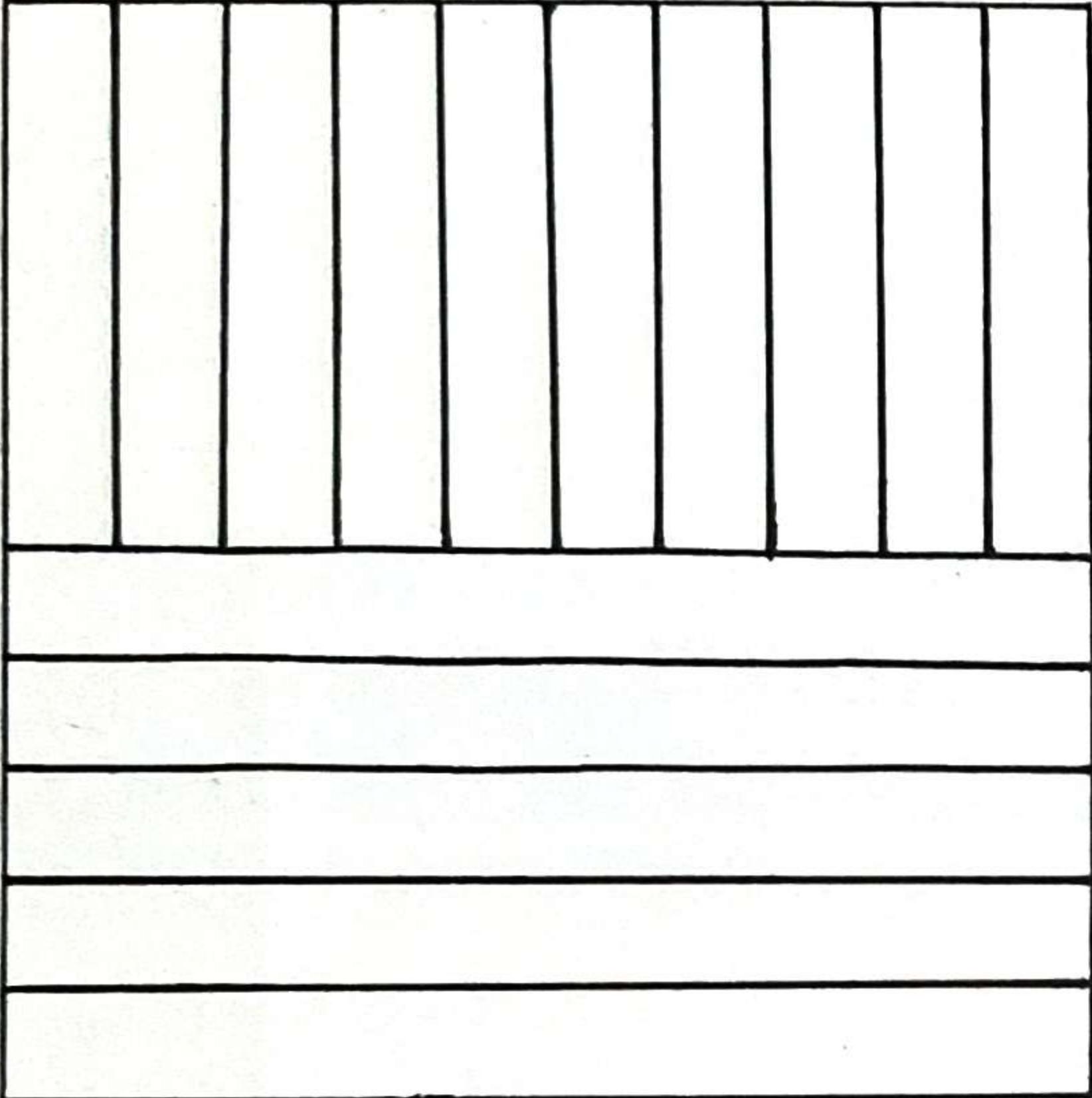
SECTION 1-18	26 AUG 2025	NAME
ENG.G	EX 1 ENGINEERING LETTERWRING	U.S.T
HANIB COLUMBANO	8	

BE DONE, ON EARTH AS IT IS IN HEAVEN.
BE DONE, ON EARTH AS IT IS IN HEAVEN.
BE THY NAME, THY KINGDOM COME, THY WILL BE
BE THY NAME, THY KINGDOM COME, THY WILL BE
OUR FATHER, WHO ART IN HEAVEN, HOLLOWED
OUR FATHER, WHO ART IN HEAVEN, HOLLOWED
BE THY NAME, THY KINGDOM COME, THY WILL BE
BE THY NAME, THY KINGDOM COME, THY WILL BE
OUR FATHER, WHO ART IN HEAVEN, HOLLOWED
OUR FATHER, WHO ART IN HEAVEN, HOLLOWED
GRAPHIC MEANS REPRESENTING IDEAS WITH THE
GRAPHIC MEANS REPRESENTING IDEAS WITH THE
AN IDEA, A REAL THING, FOR CONSTRUCTION LATER.
AN IDEA, A REAL THING, FOR CONSTRUCTION LATER.
DRAWING IS A GRAPHIC REPRESENTATION OF
DRAWING IS A GRAPHIC REPRESENTATION OF
A A A A A A A A
B B B B B B B B
C C C C C C C C
D D D D D D D D
E E E E E E E E
F F F F F F F F
G G G G G G G G
H H H H H H H H
I I I I I I I I
J J J J J J J J
K K K K K K K K
L L L L L L L L
M M M M M M M M
N N N N N N N N
O O O O O O O O
P P P P P P P P
Q Q Q Q Q Q Q Q
R R R R R R R R
S S S S S S S S
T T T T T T T T
W W W W W W W W
X X X X X X X X
Z Z Z Z Z Z Z Z



USE OF LINES AND LETTERS.
GRAPHIC MEANS REPRESENTING IDEAS WITH THE
GRAPHIC MEANS REPRESENTING IDEAS WITH THE
AN IDEA, A REAL THING, FOR CONSTRUCTION LATER.
AN IDEA, A REAL THING, FOR CONSTRUCTION LATER.
DRAWING IS A GRAPHIC REPRESENTATION OF
DRAWING IS A GRAPHIC REPRESENTATION OF

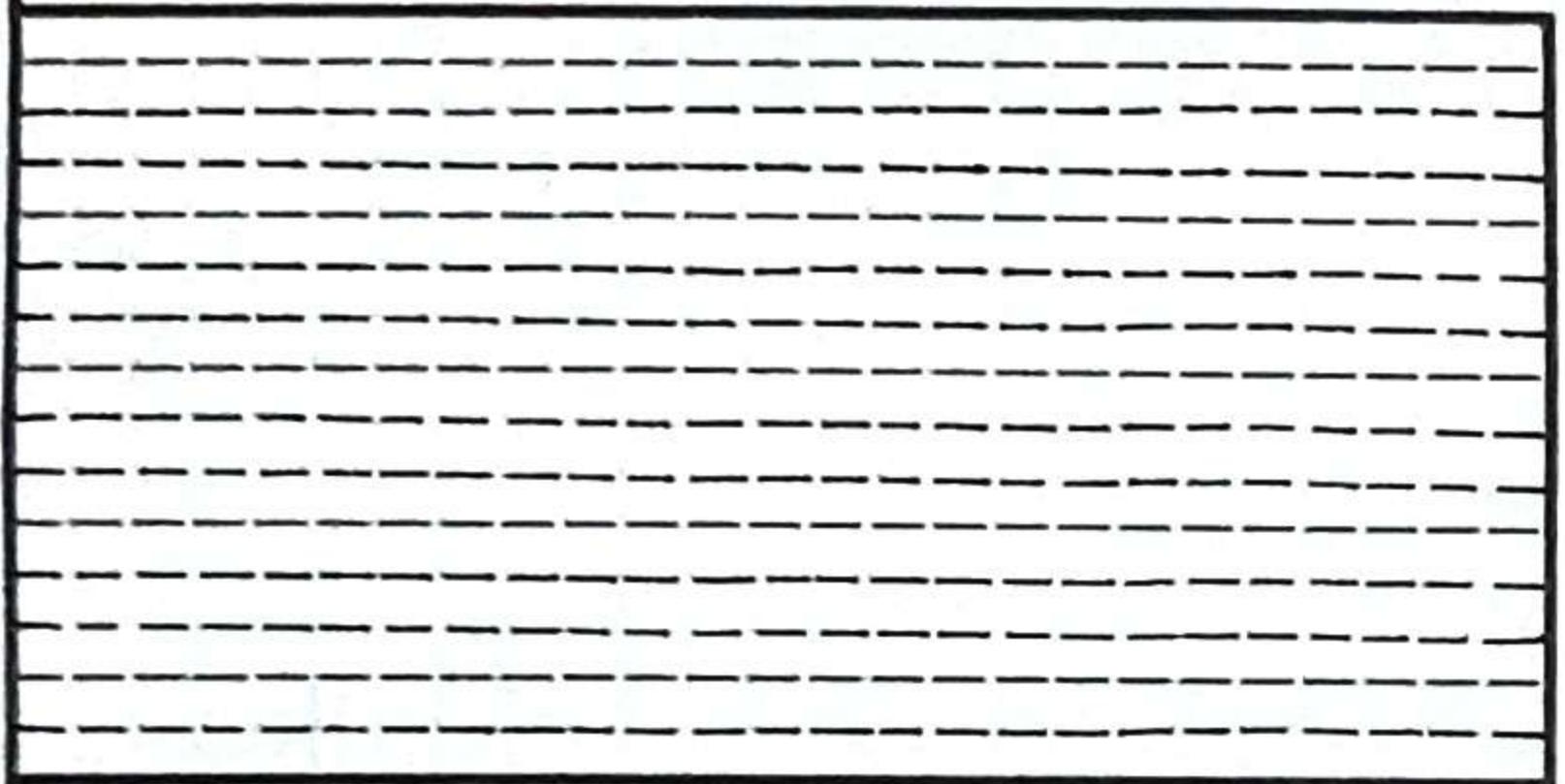
DRAWING IS A GRAPHIC REPRESENTATION OF
DRAWING IS A GRAPHIC REPRESENTATION OF
A A A A A A A A
B B B B B B B B
C C C C C C C C
D D D D D D D D
E E E E E E E E
F F F F F F F F
G G G G G G G G
H H H H H H H H
I I I I I I I I
J J J J J J J J
K K K K K K K K
L L L L L L L L
M M M M M M M M
N N N N N N N N
O O O O O O O O
P P P P P P P P
Q Q Q Q Q Q Q Q
R R R R R R R R
S S S S S S S S
T T T T T T T T
W W W W W W W W
X X X X X X X X
Z Z Z Z Z Z Z Z



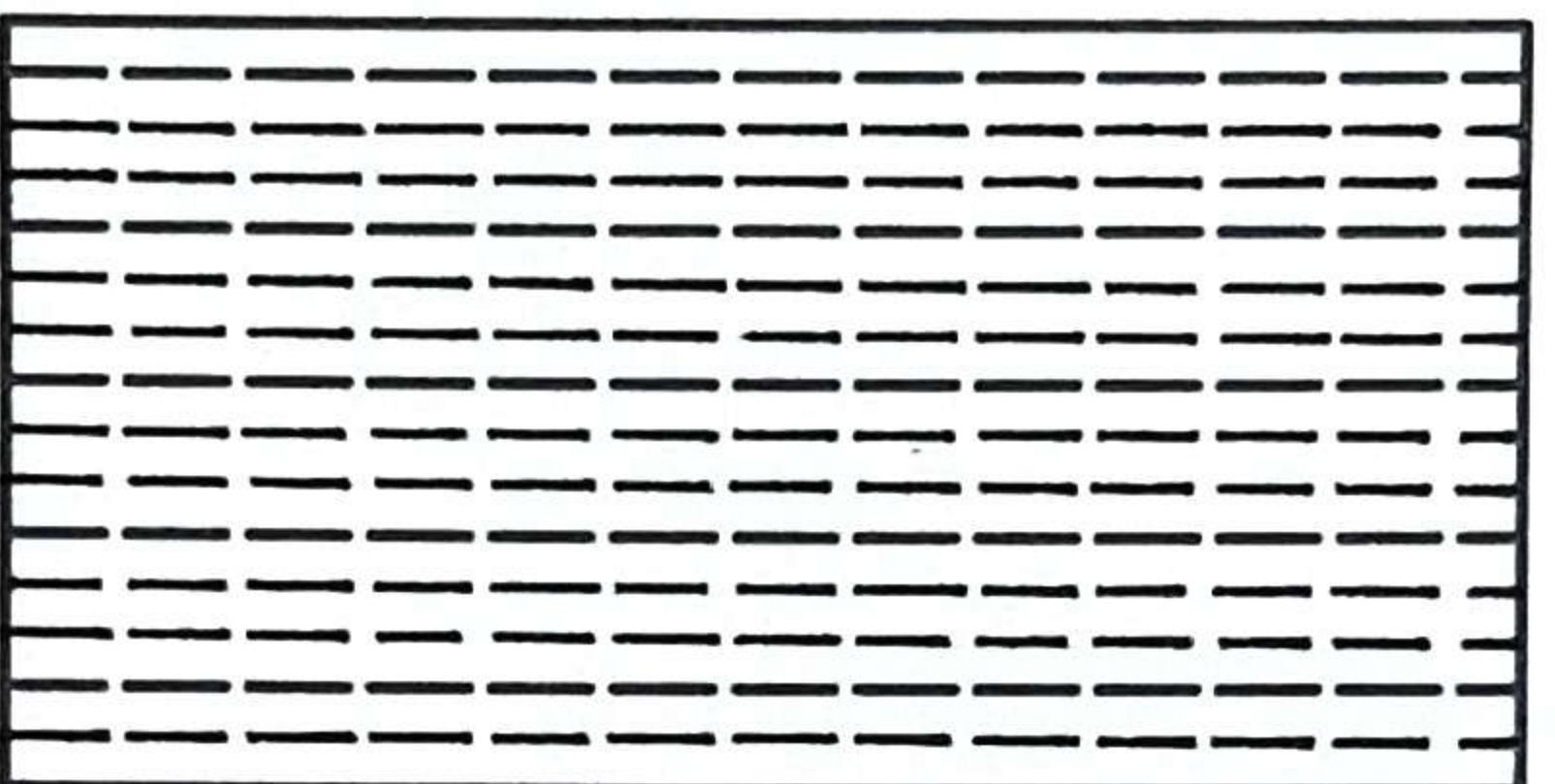
VISIBLE LINE - TO INDICATE VISIBLE EDGES ON AN OBJECT

SECTION LINE - DESCRIBES A SOLID SURFACE EXPOSED BY A CUTTING PLANE

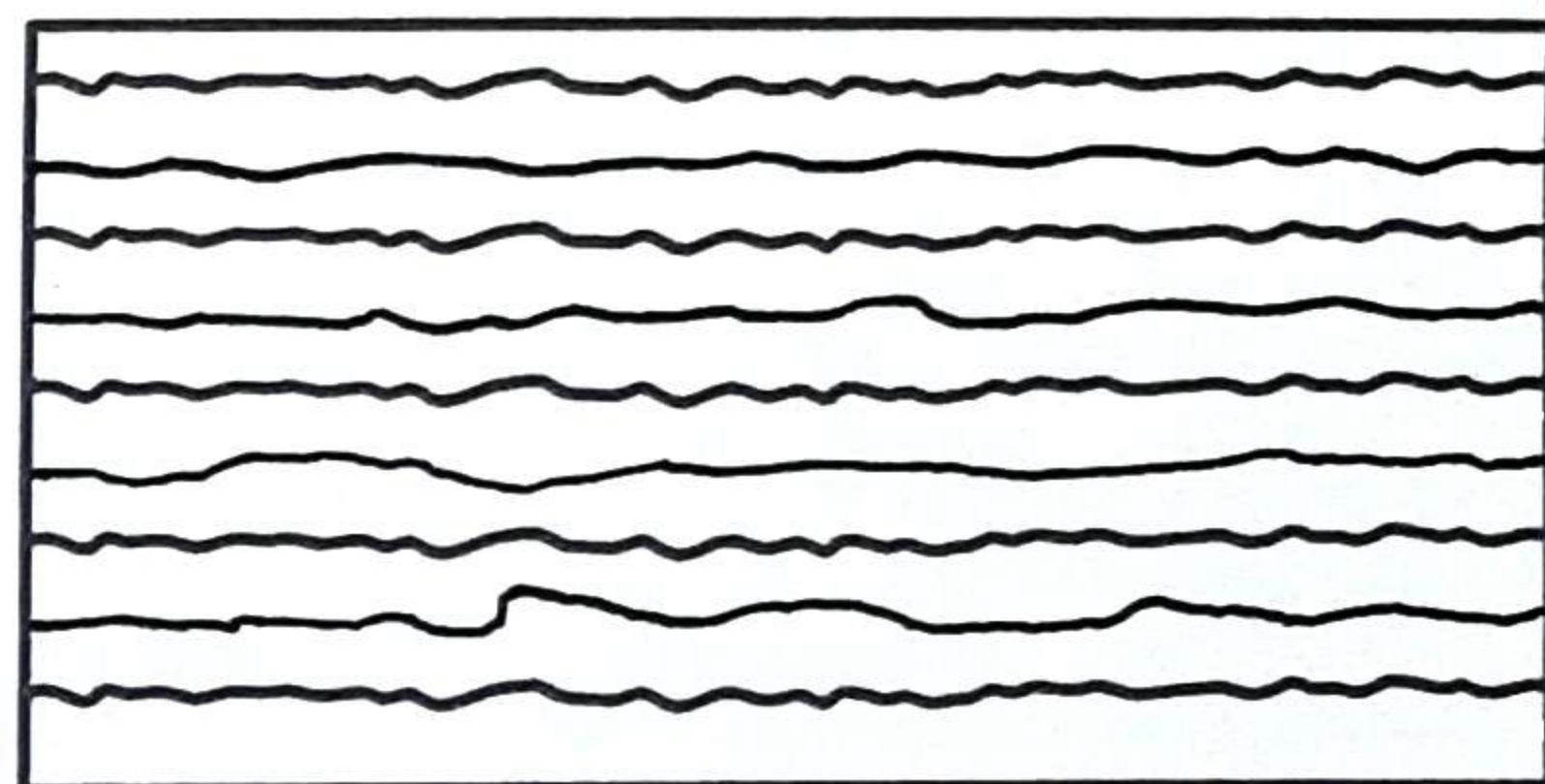
UST ENG'G	EX 2 LINE TYPES HANIP.COLUMBANO	1/2 8
	30 AUG 2022	SECTION 1-18



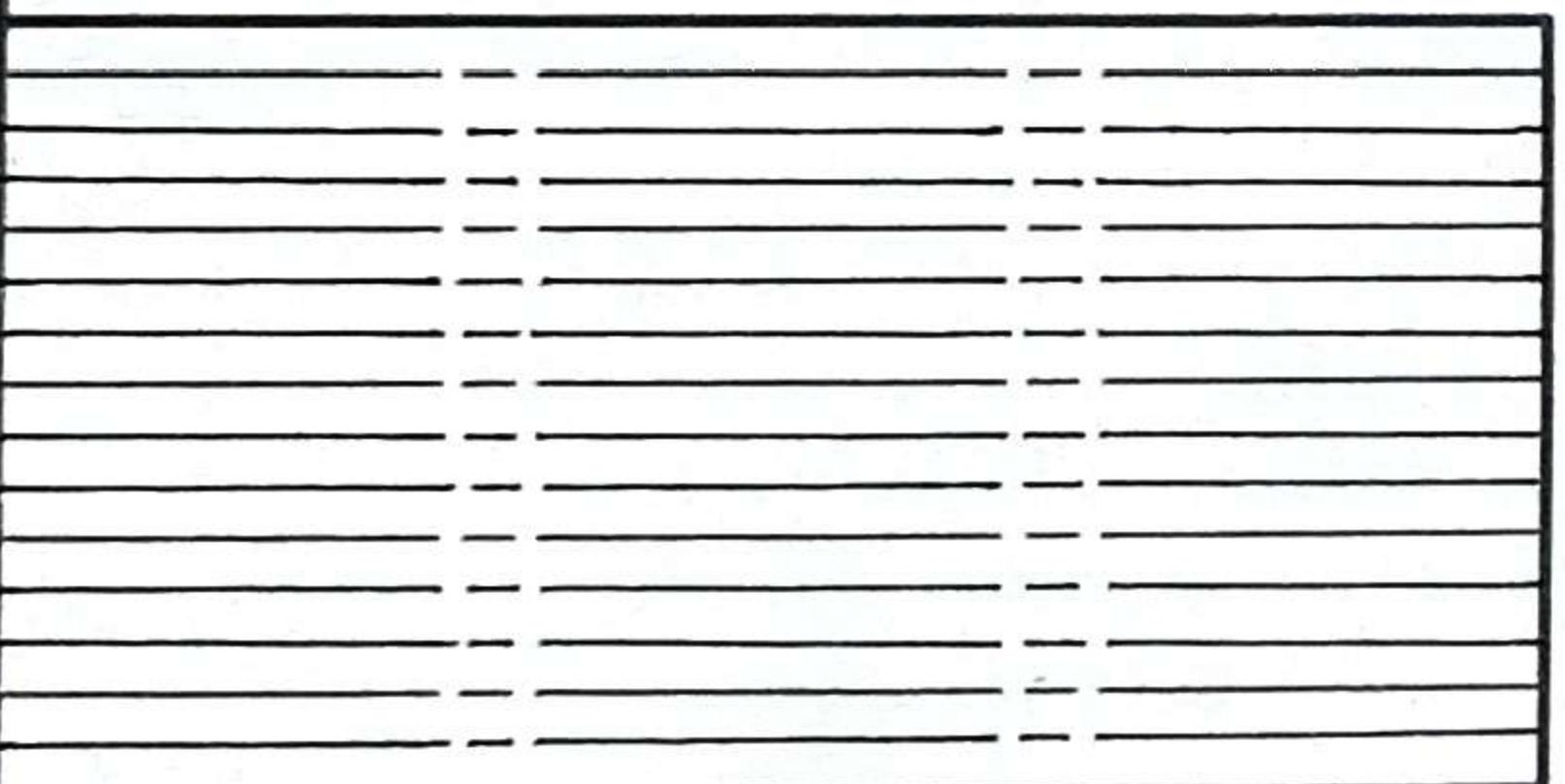
HIDDEN LINE - TO SHOW HIDDEN
OR CONCEALED EDGES



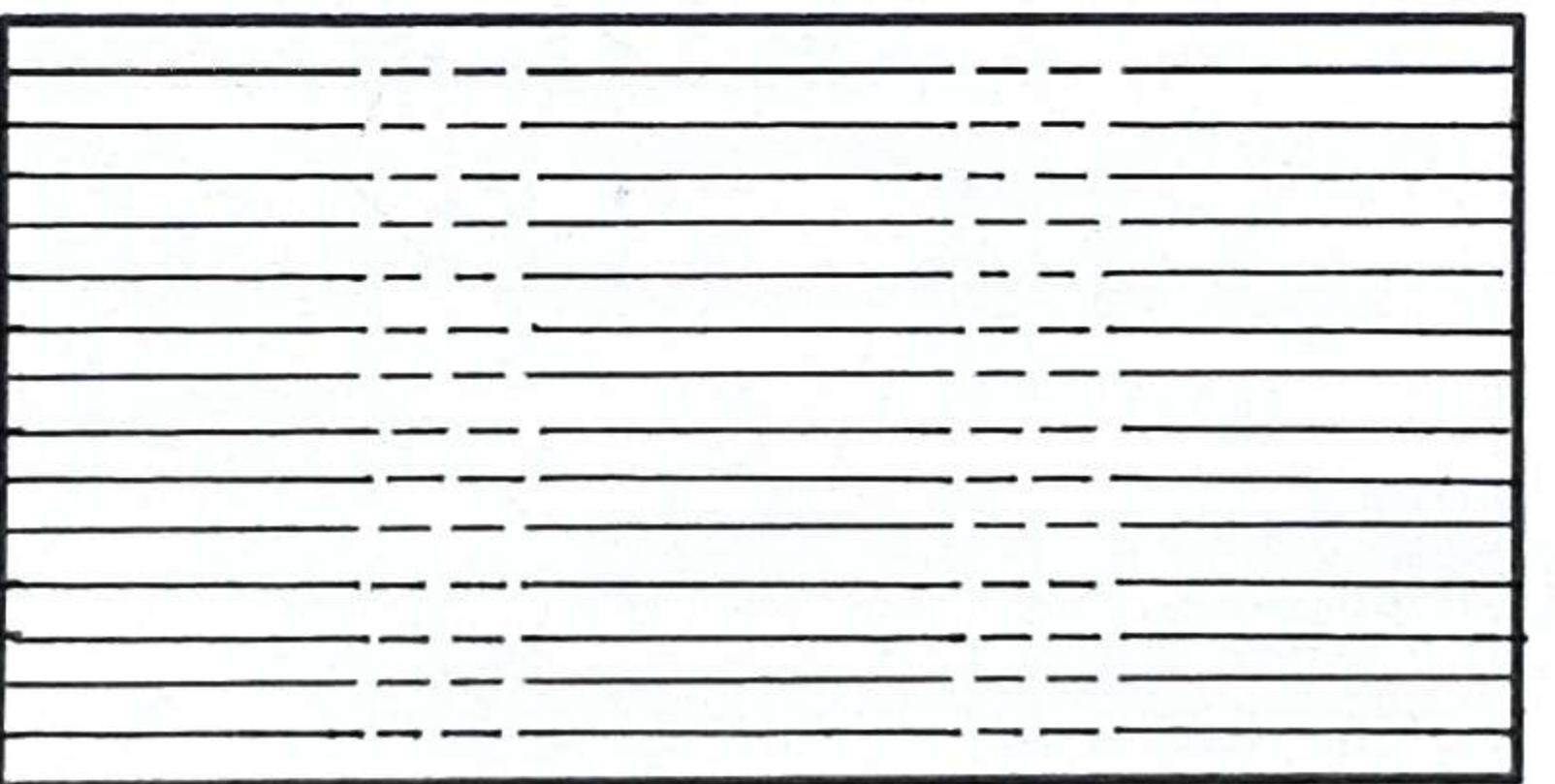
CUTTING PLANE LINE - DESIGNATES
WHERE AN IMAGINARY CUTTING PLANE
PASSES THROUGH AN OBJECT



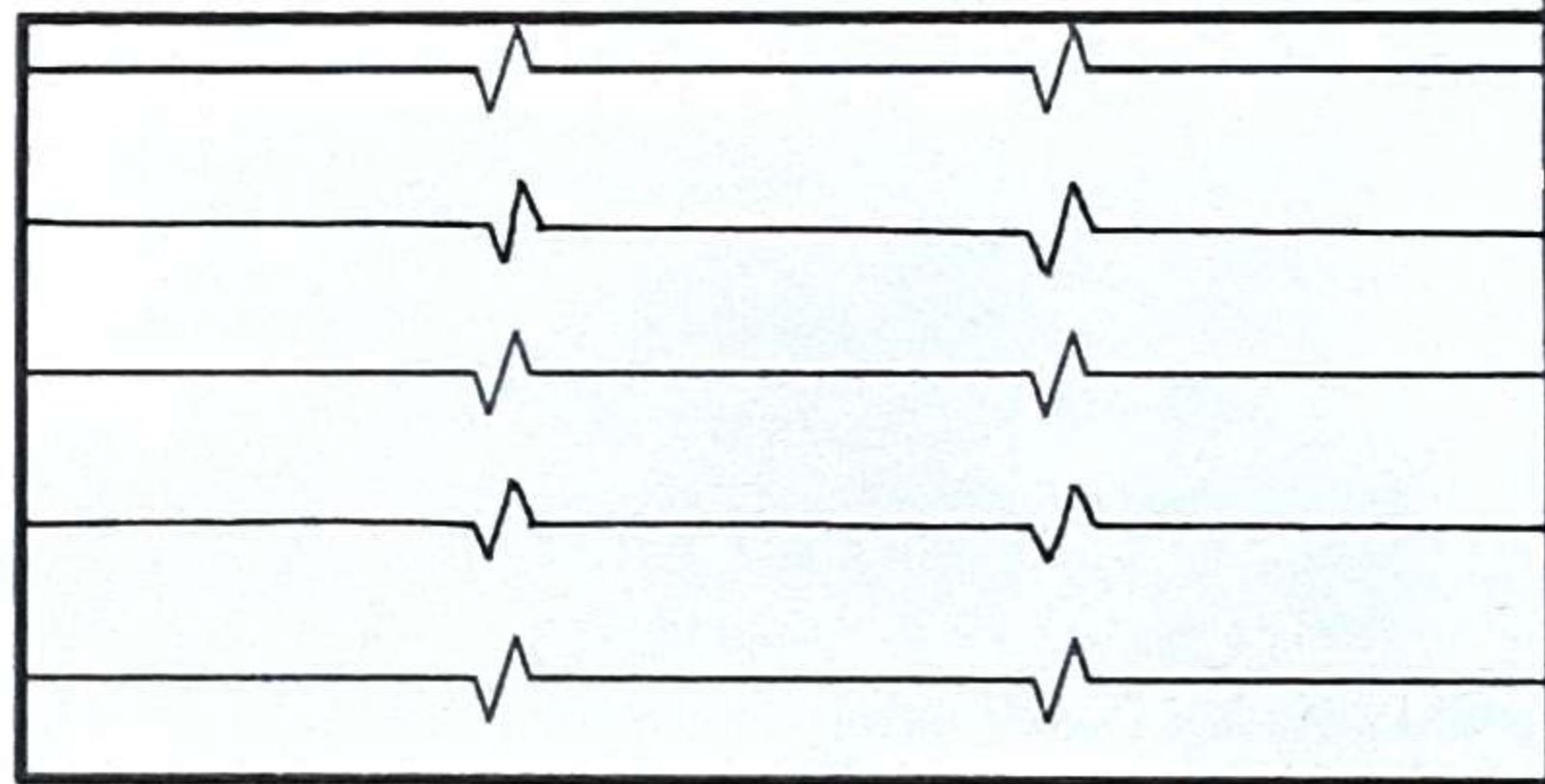
SHORT BREAK LINE - THICK
UNBROKEN WAVY FREEHAND LINE
TO ELIMINATE REPETITIVE DETAILS



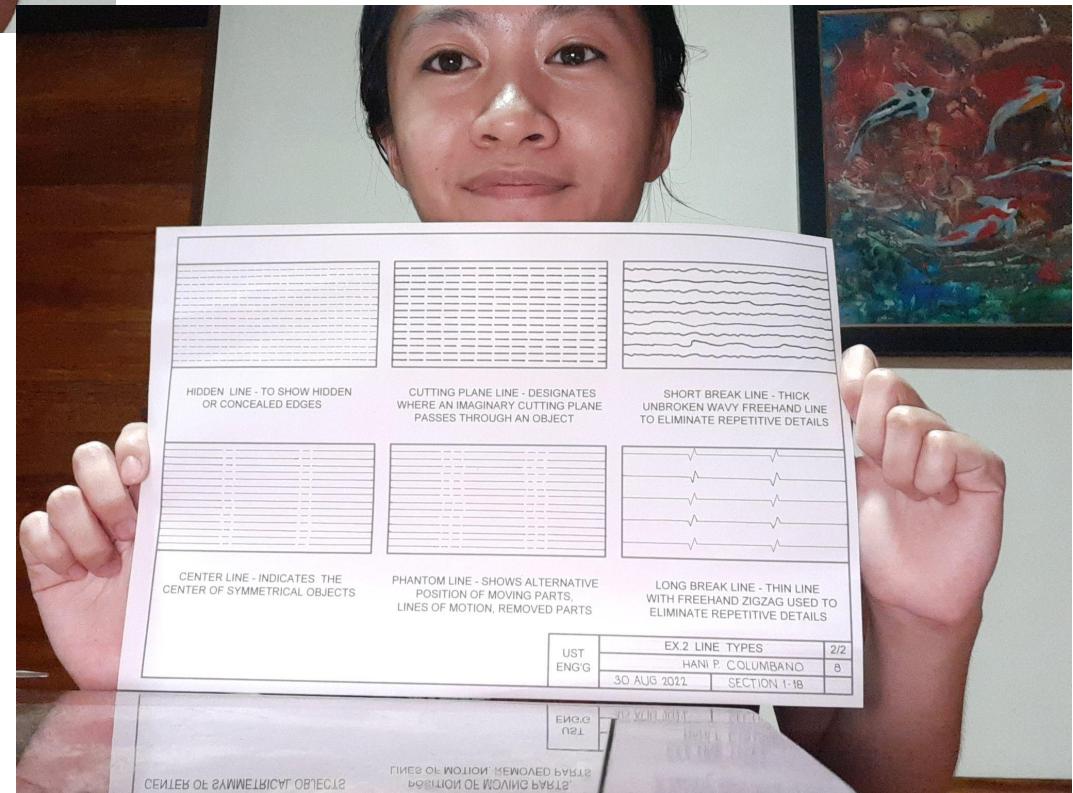
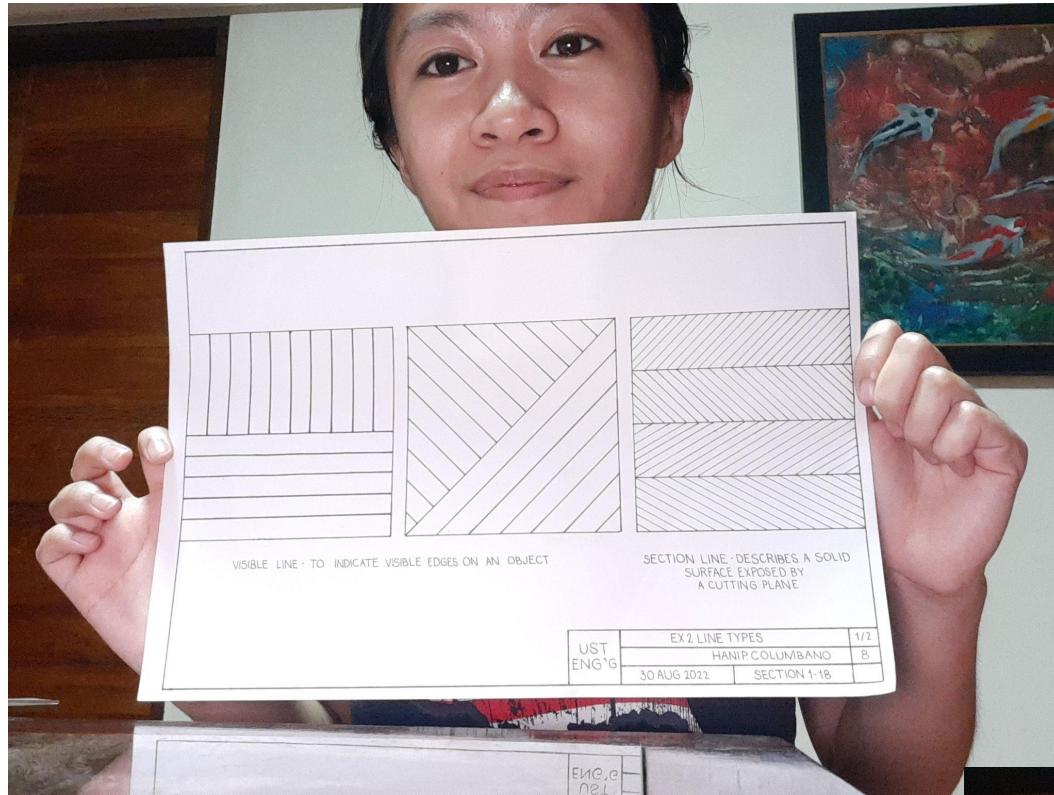
CENTER LINE - INDICATES THE
CENTER OF SYMMETRICAL OBJECTS



PHANTOM LINE - SHOWS ALTERNATIVE
POSITION OF MOVING PARTS,
LINES OF MOTION, REMOVED PARTS



LONG BREAK LINE - THIN LINE
WITH FREEHAND ZIGZAG USED TO
ELIMINATE REPETITIVE DETAILS



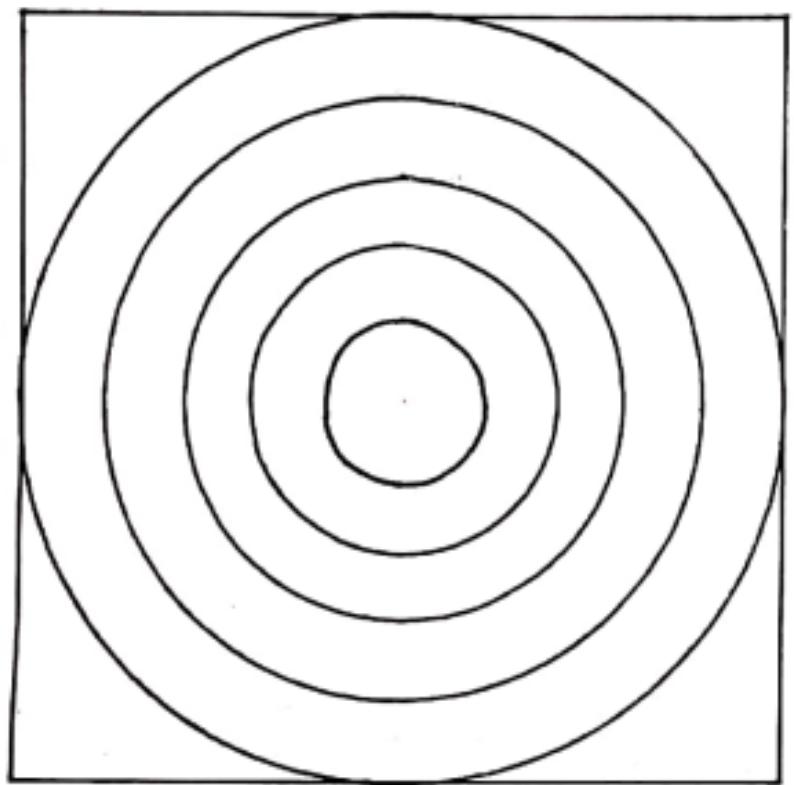


FIGURE 1

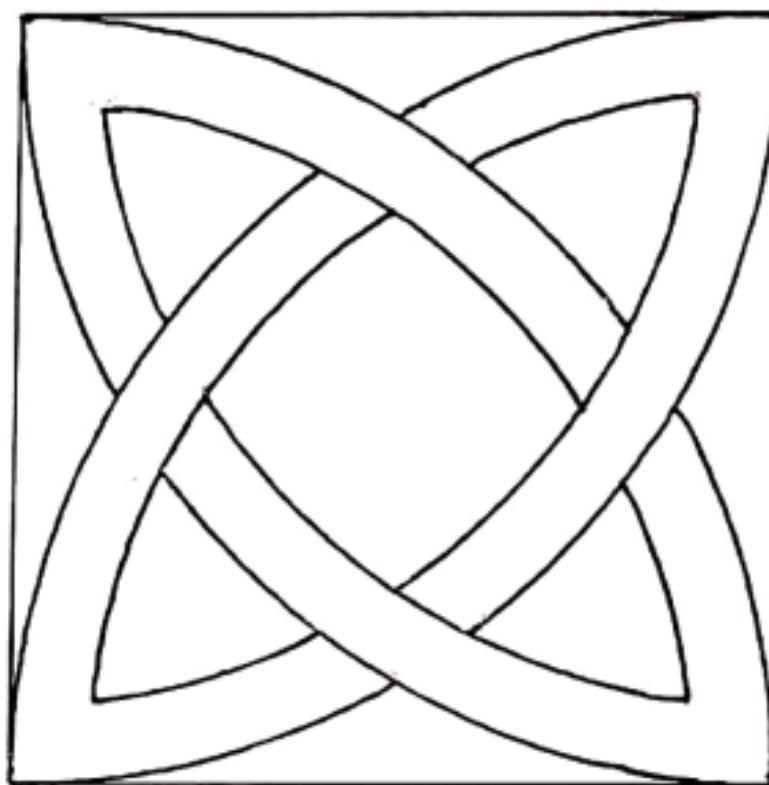


FIGURE 2

UST ENG'G	EX 3 COMPASS EXERCISES HANI P. COLUMBANO	1/2 8
	12 SEPT 2022	SECTION 1-18

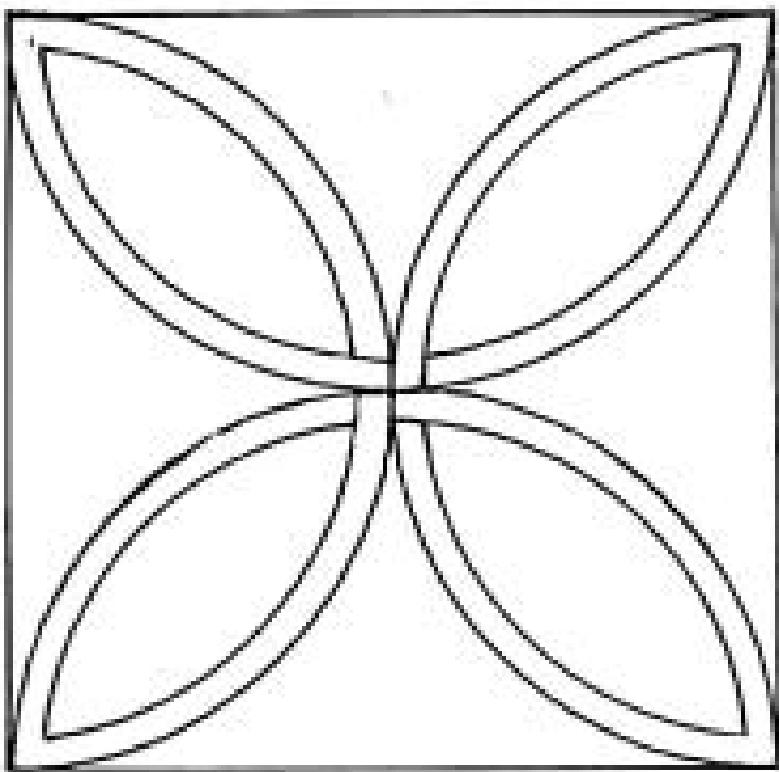


FIGURE 3

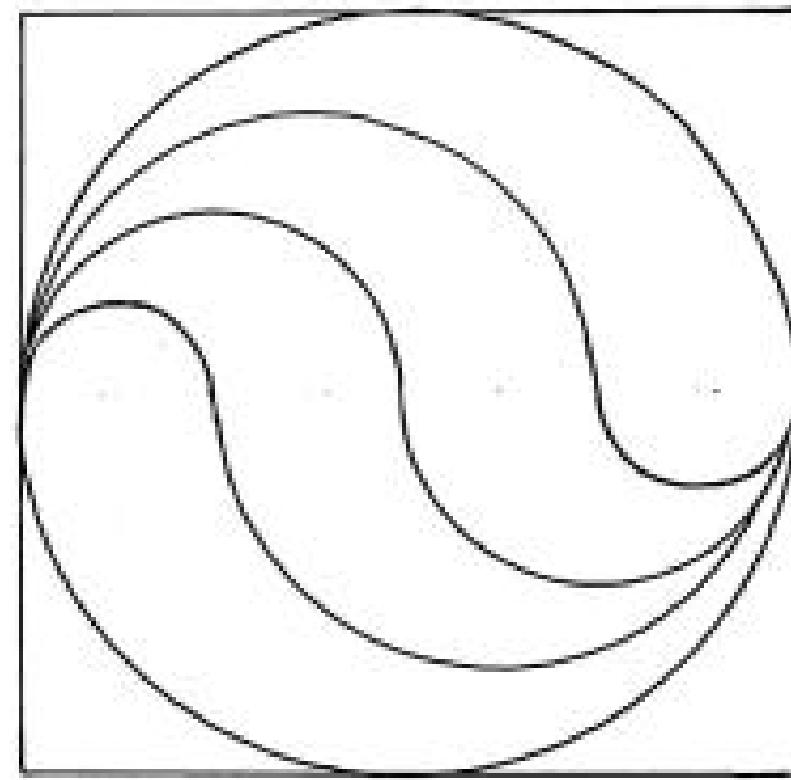
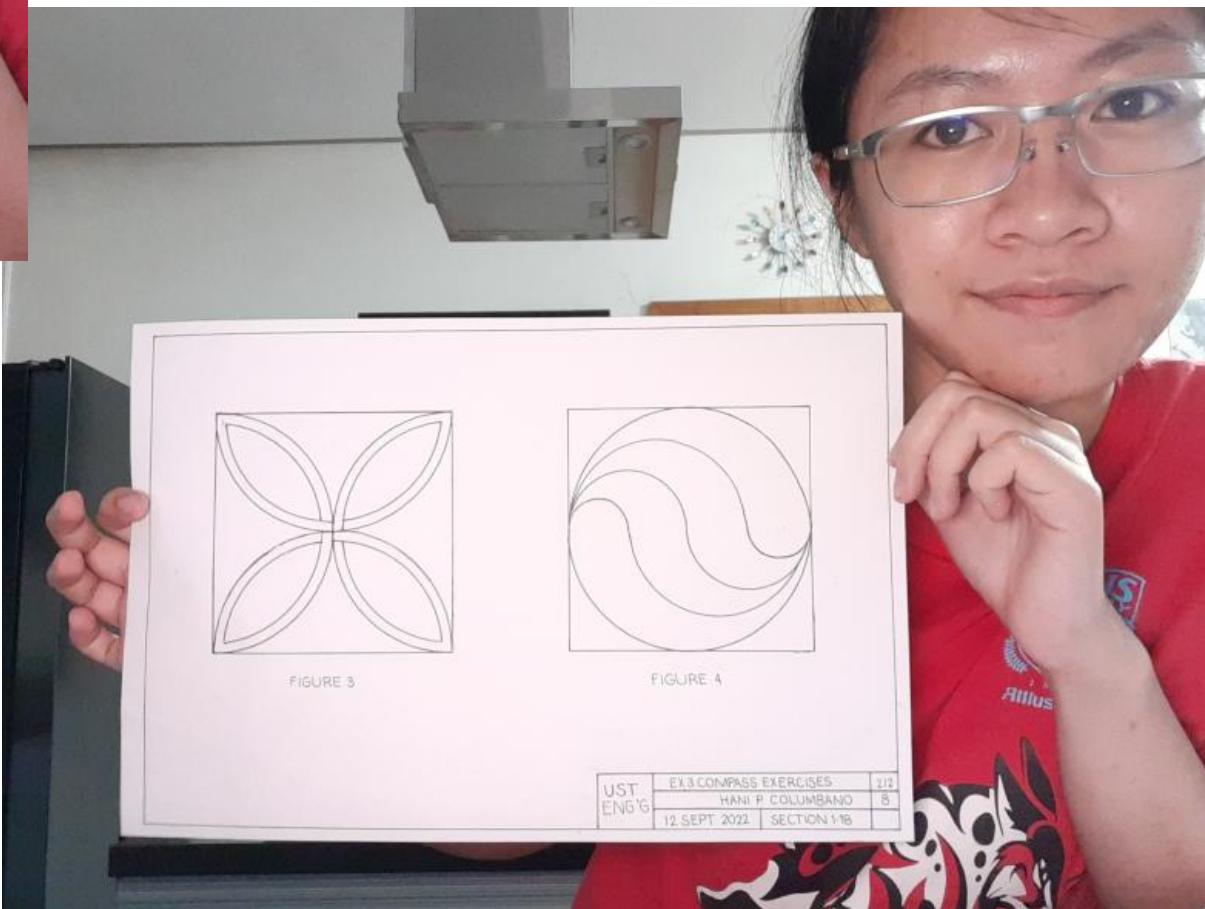
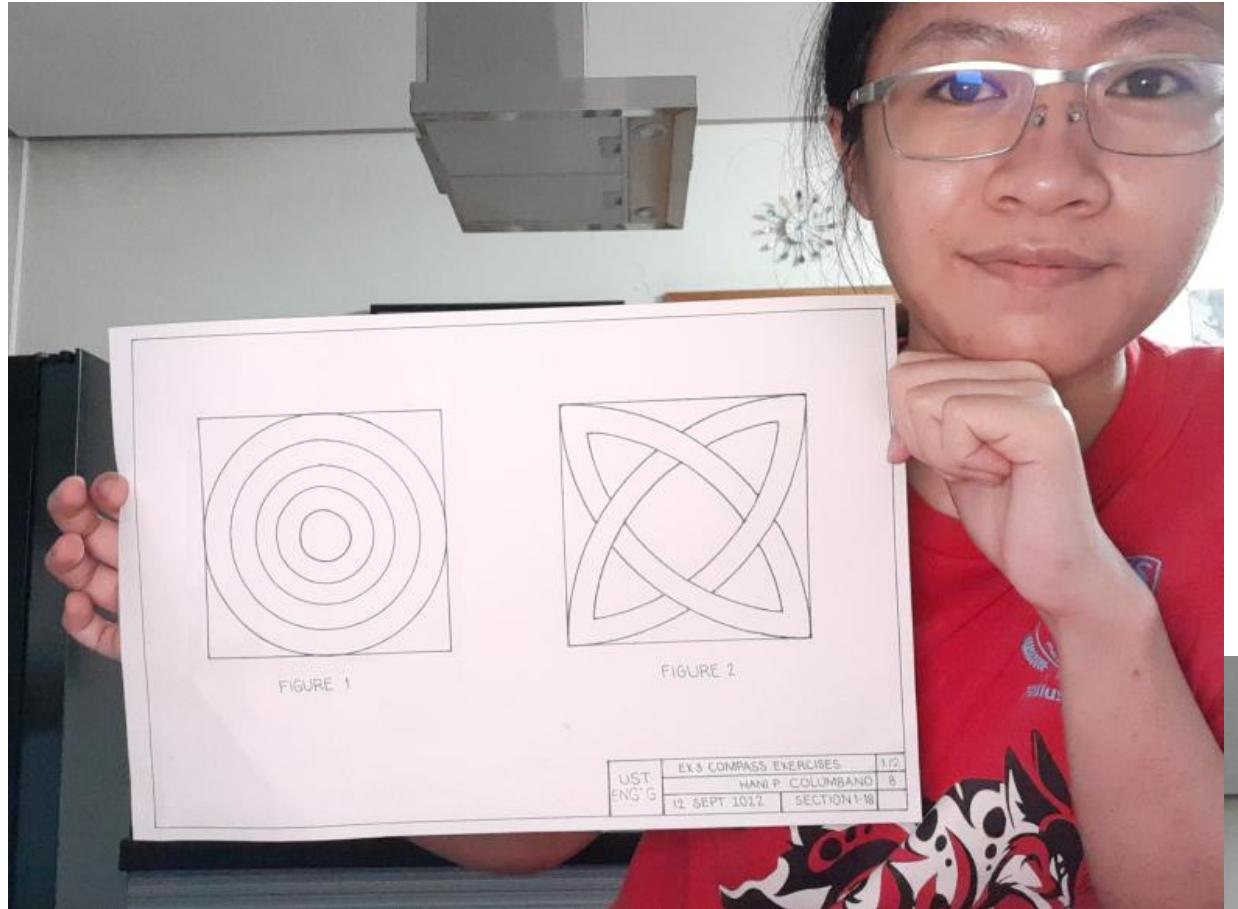
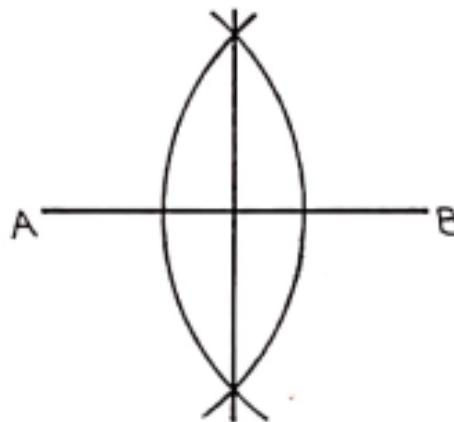


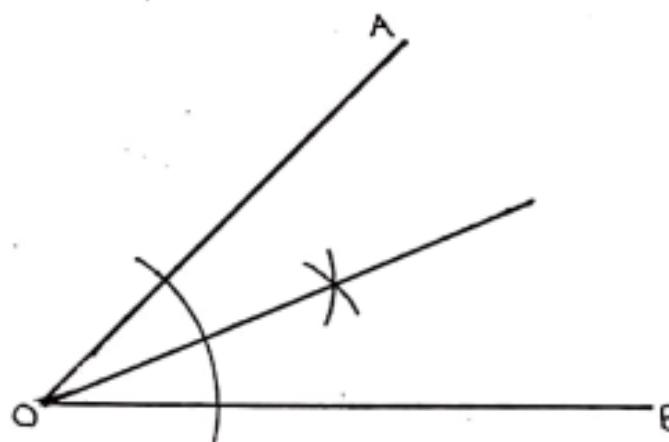
FIGURE 4

UST ENG 'G	EX3 COMPASS EXERCISES HANI P. COLUMBANO	212 B
	12 SEPT 2022	SECTION 1-18

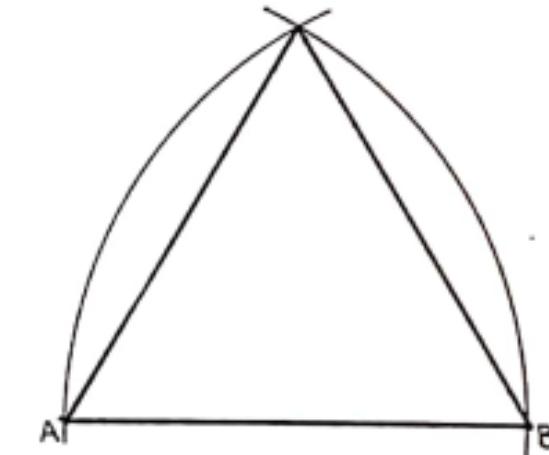




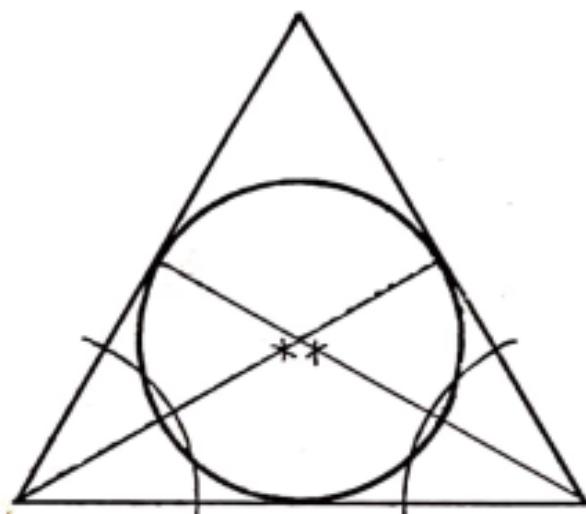
GIVEN: LINE AB
REQUIRED: A PERPENDICULAR BISECTOR



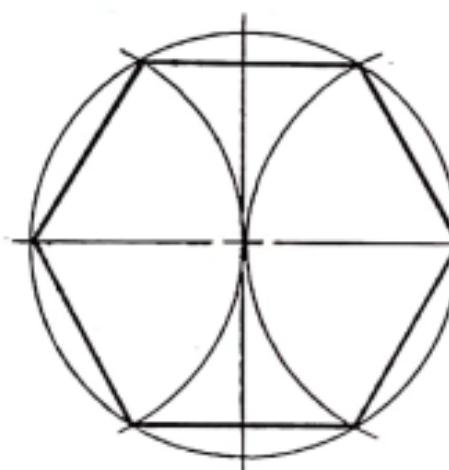
GIVEN: ANGLE AOB 45 DEGREES
REQUIRED: AN ANGLE BISECTOR



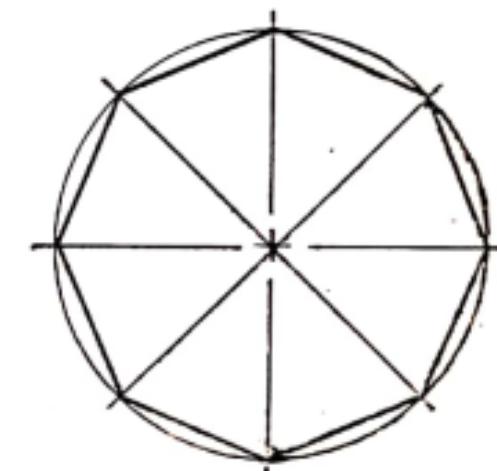
GIVEN: A LINE AB
REQUIRED: AN EQUILATERAL TRIANGLE



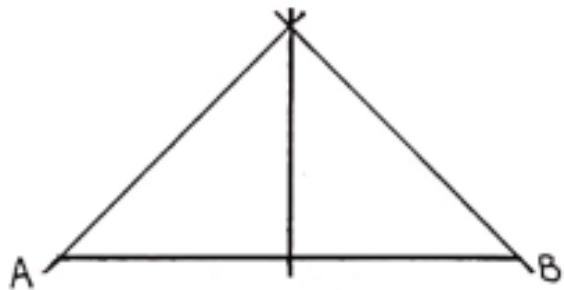
GIVEN: AN EQUILATERAL TRIANGLE
REQUIRED: A CIRCLE TANGENT TO SIDES OF THE TRIANGLE



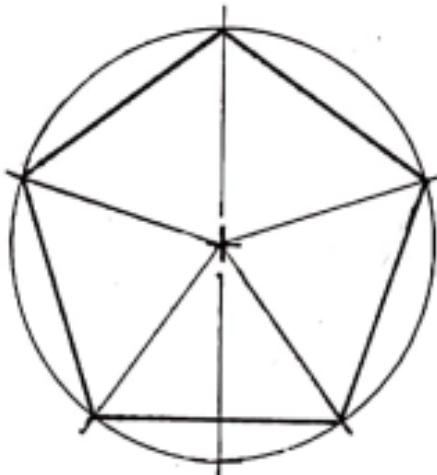
GIVEN: A CIRCLE WITH 28mm RADIUS
REQUIRED: AN INSCRIBED REGULAR HEXAGON



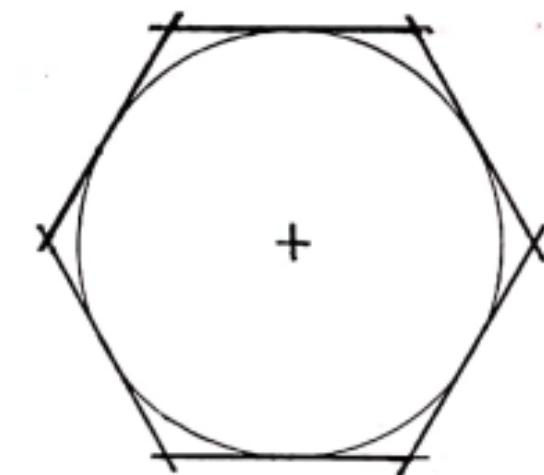
GIVEN: A CIRCLE WITH 28mm RADIUS
REQUIRED: AN INSCRIBED REGULAR OCTAGON



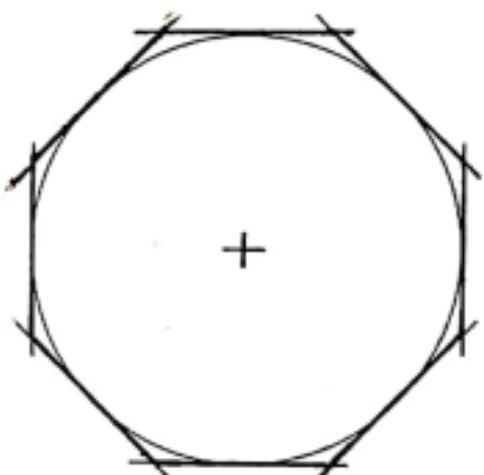
GIVEN: LINE AB
REQUIRED: A BISECTOR USING THE T-SQUARE AND THE TRIANGLE



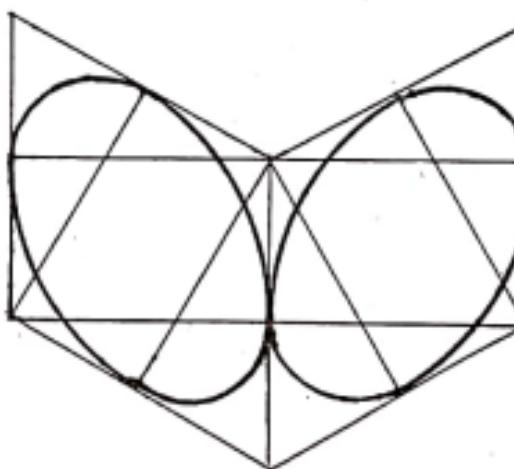
GIVEN: A CIRCLE WITH 28mm RADIUS
REQUIRED: AN INSCRIBED REGULAR PENTAGON



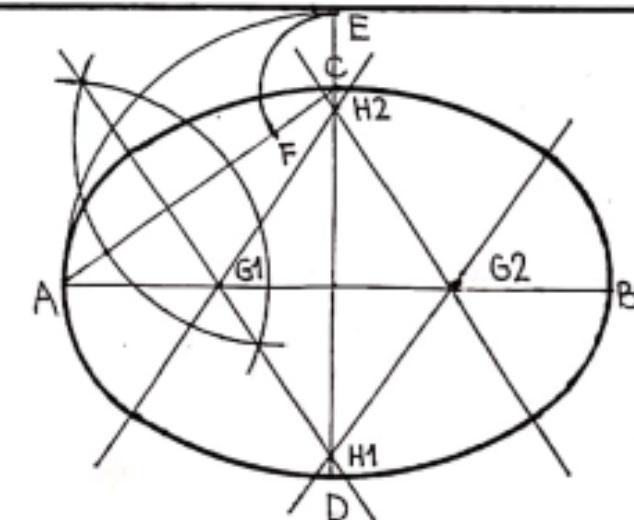
GIVEN: A CIRCLE WITH 28mm RADIUS
REQUIRED: A CIRCUMSCRIBED REGULAR HEXAGON



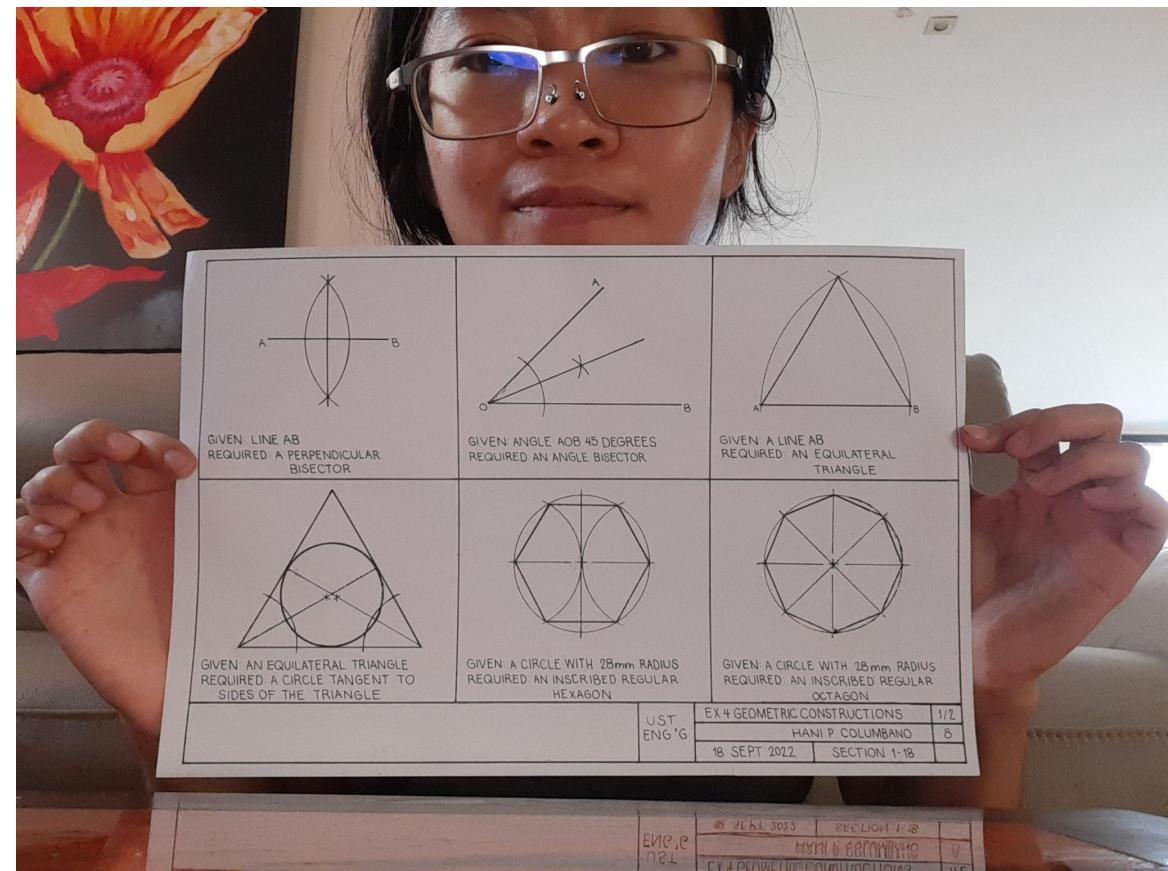
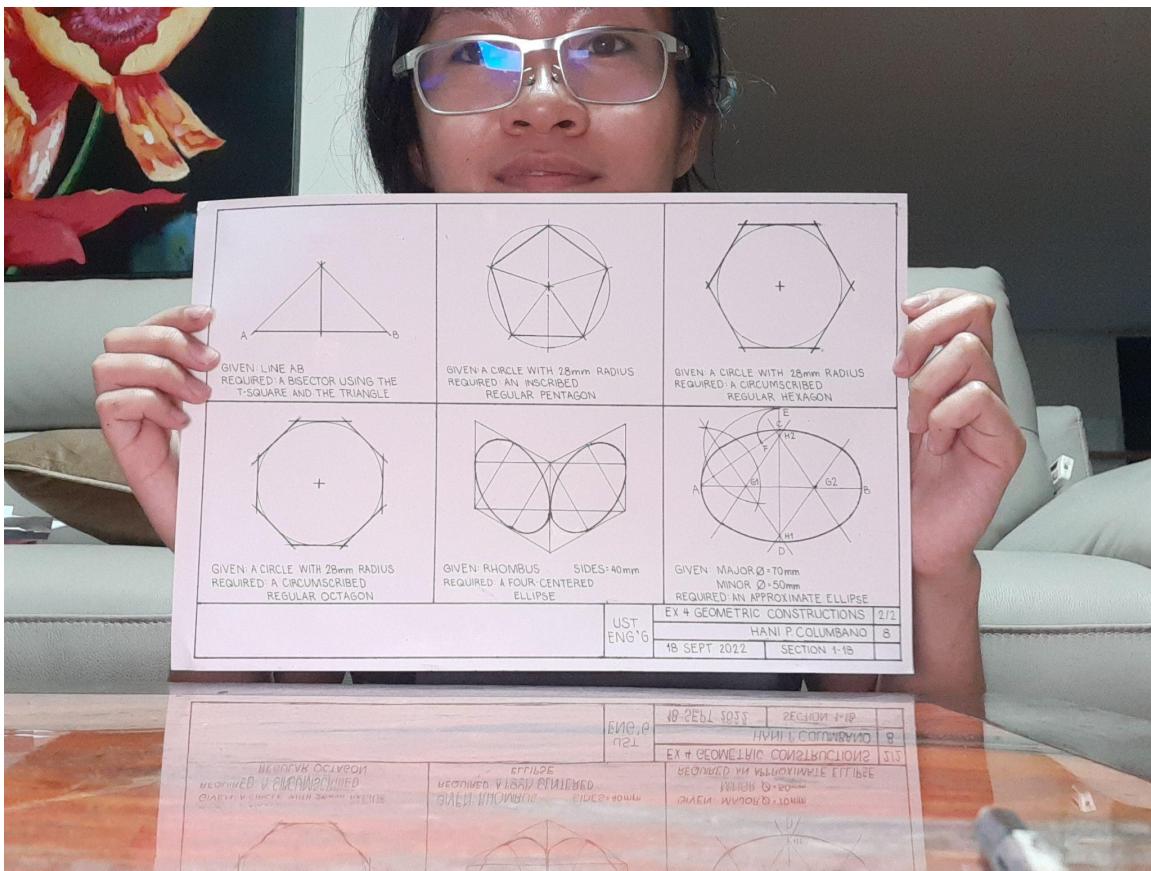
GIVEN: A CIRCLE WITH 28mm RADIUS
REQUIRED: A CIRCUMSCRIBED REGULAR OCTAGON

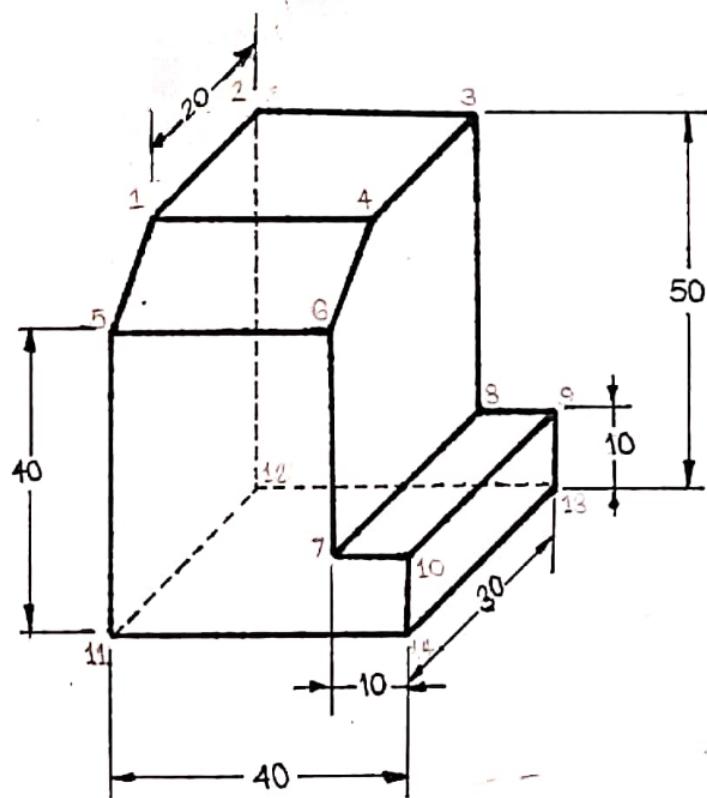


GIVEN: RHOMBUS SIDES=40mm
REQUIRED: A FOUR-CENTERED ELLIPSE

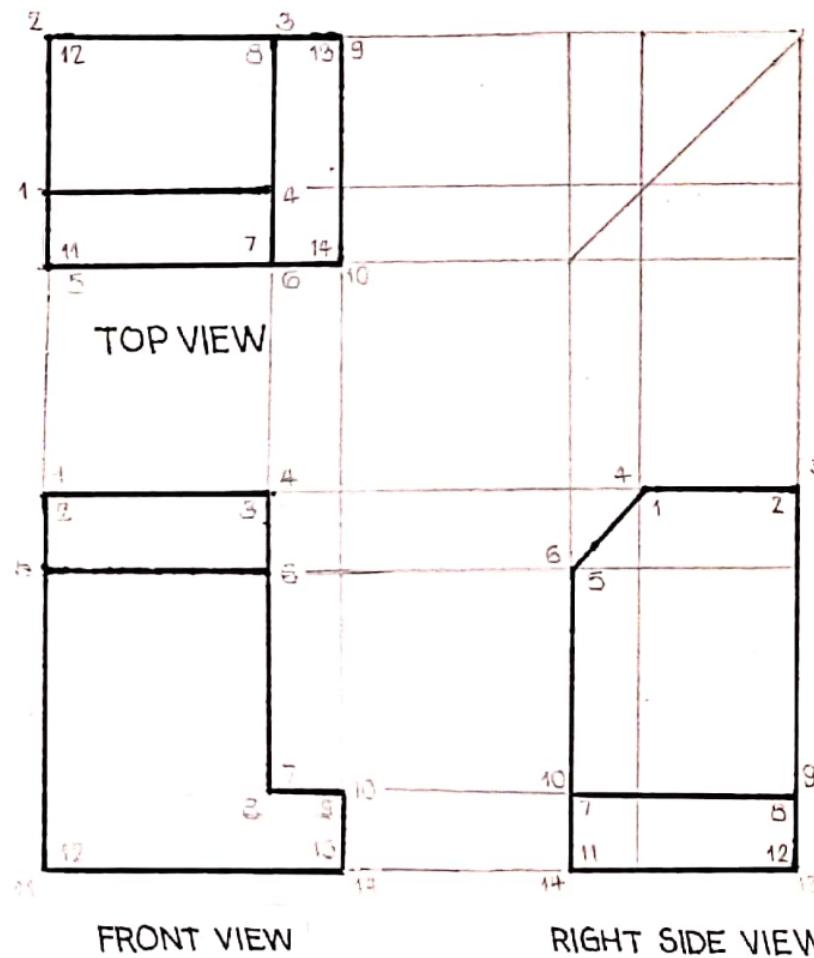


GIVEN: MAJOR Ø=70mm
MINOR Ø=50mm
REQUIRED: AN APPROXIMATE ELLIPSE

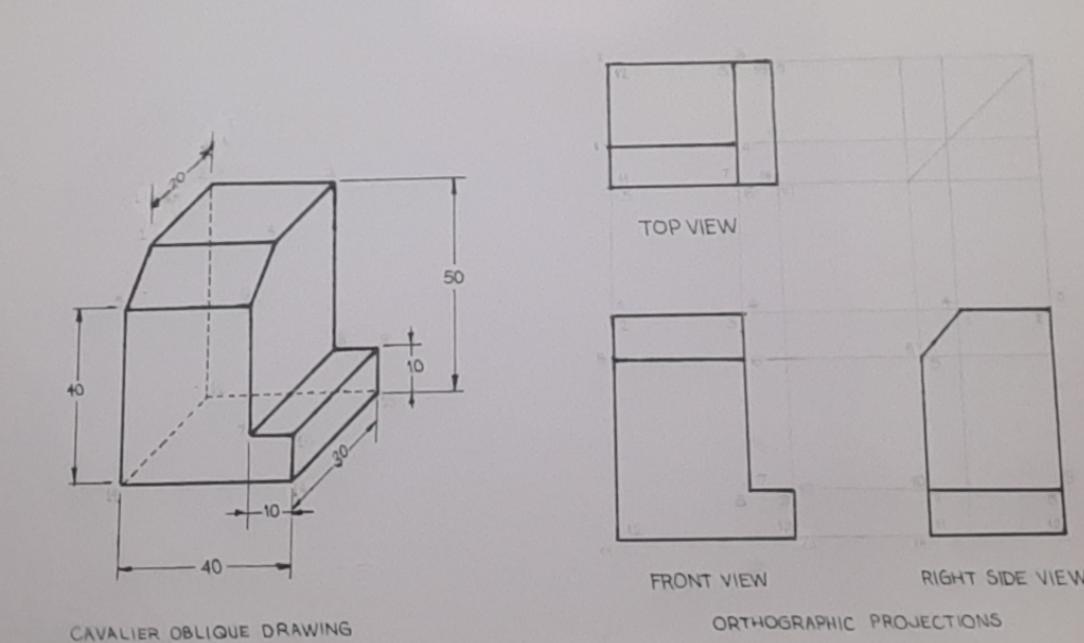
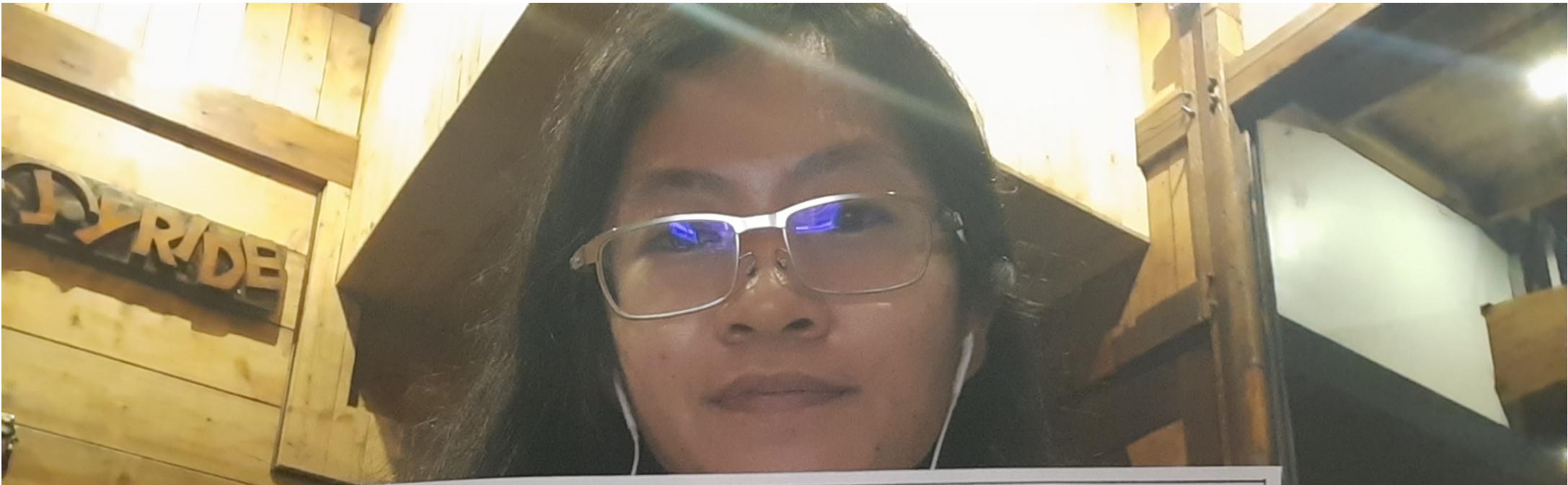




CAVALIER OBLIQUE DRAWING



ORTHOGRAPHIC PROJECTIONS



CAVALIER OBLIQUE DRAWING

UST ENG'G	EX 5 ORTHOGRAPHIC PROJECTION HANIP COLUMBANO 26 SEPT 2022	1/1 8 SECTION 1-1B
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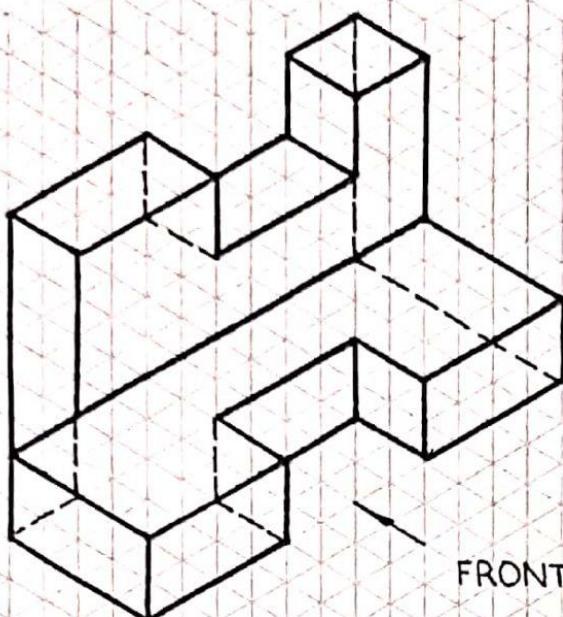


FIGURE 5-4-A-1

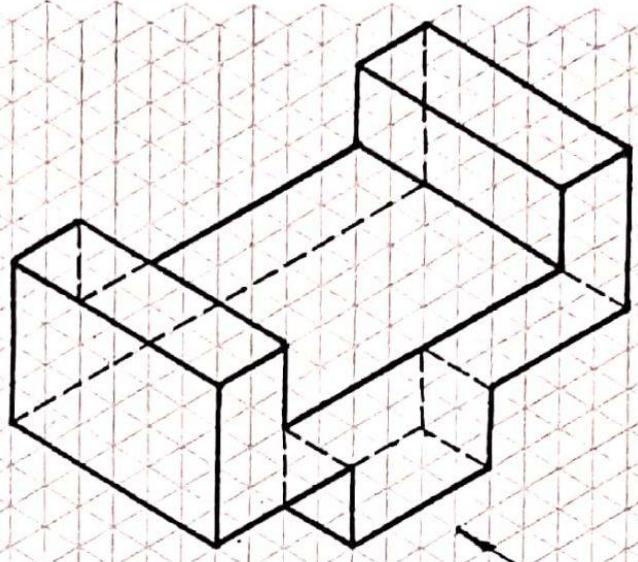
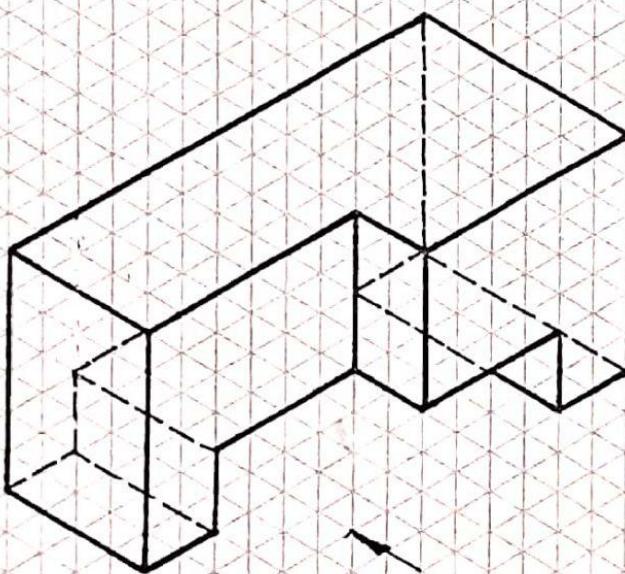
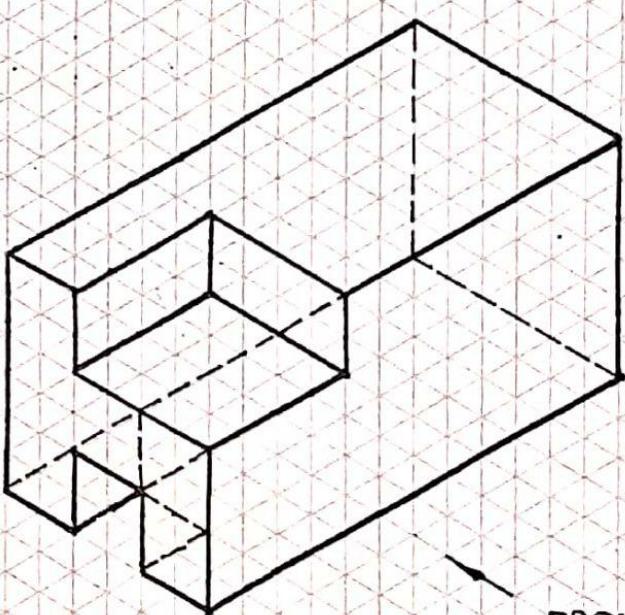


FIGURE 5-4-B-1



FRONT

FIGURE 5-4-A-2



FRONT

FIGURE 5-4-A-3

UST
ENG'G

EX6 SKETCHING EXERCISES

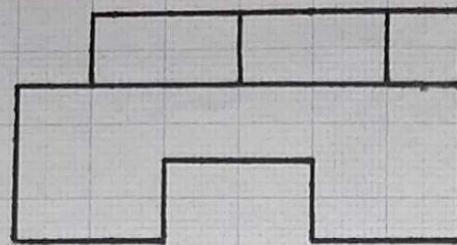
1/3

HANI P. COLUMBANO

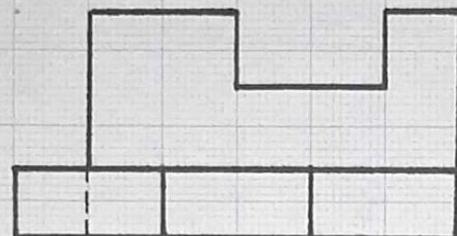
8

NOV 7 2022

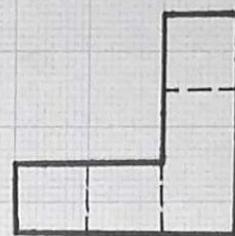
SECTION 1-18



TOP VIEW

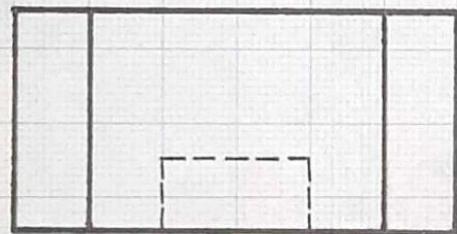


FRONT VIEW

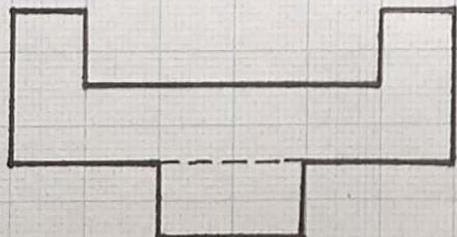


RIGHT SIDE VIEW

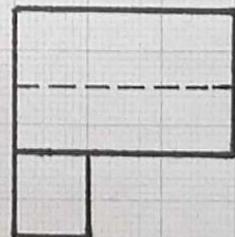
FIGURE 5-4-A-1



TOP VIEW



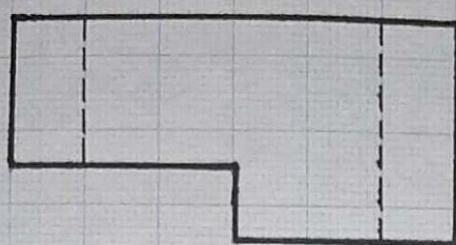
FRONT VIEW



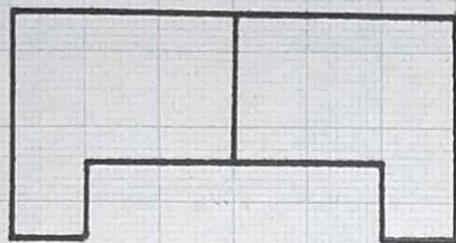
RIGHT SIDE VIEW

FIGURE 5-4-B-1

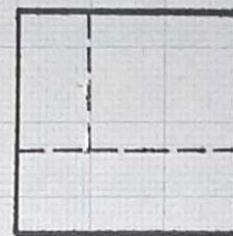
UST ENG'G	EX 6 SKETCHING EXERCISES	2/3
	HANI P. COLUMBANO	8
	NOV 7 2022	SECTION 1-18



TOP VIEW

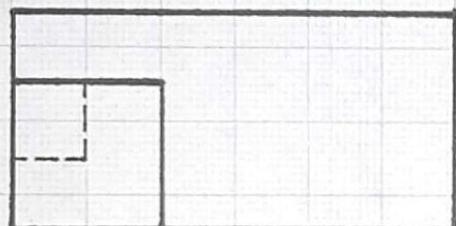


FRONT VIEW

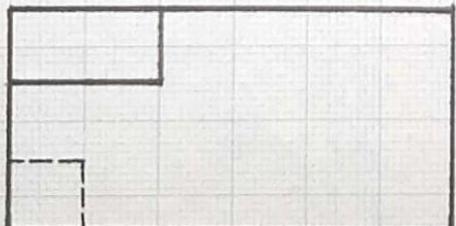


RIGHT SIDE VIEW

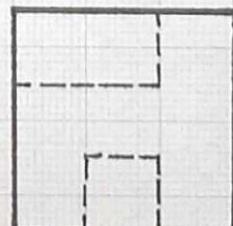
FIGURE 5-4-A-2



TOP VIEW



FRONT VIEW



RIGHT SIDE VIEW

FIGURE 5-4-A-3

UST
ENG'G

EX 6 SKETCHING EXERCISES

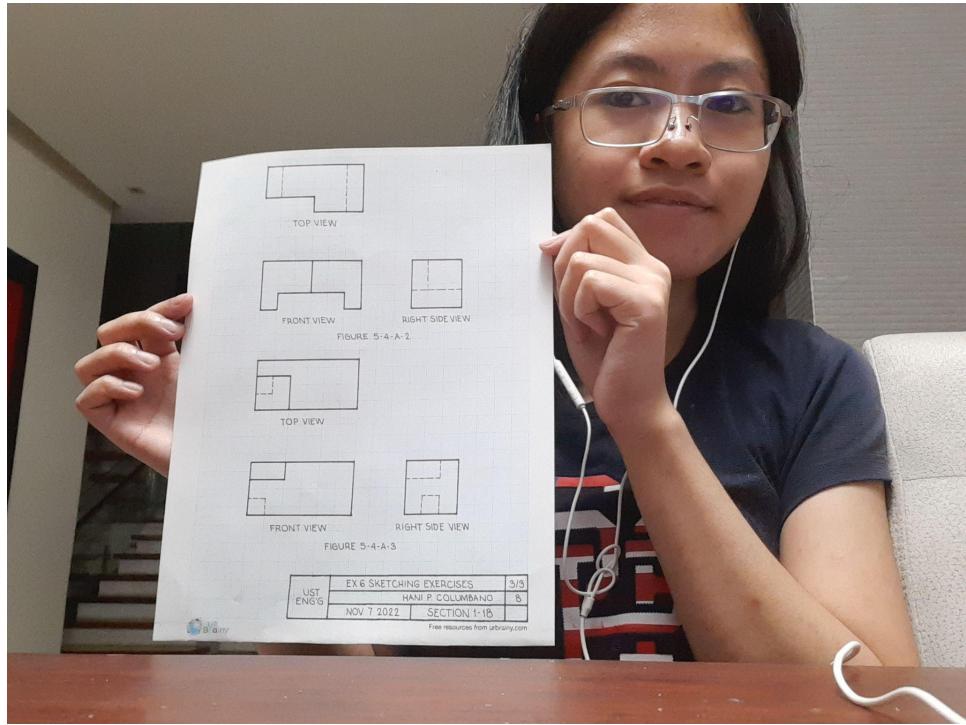
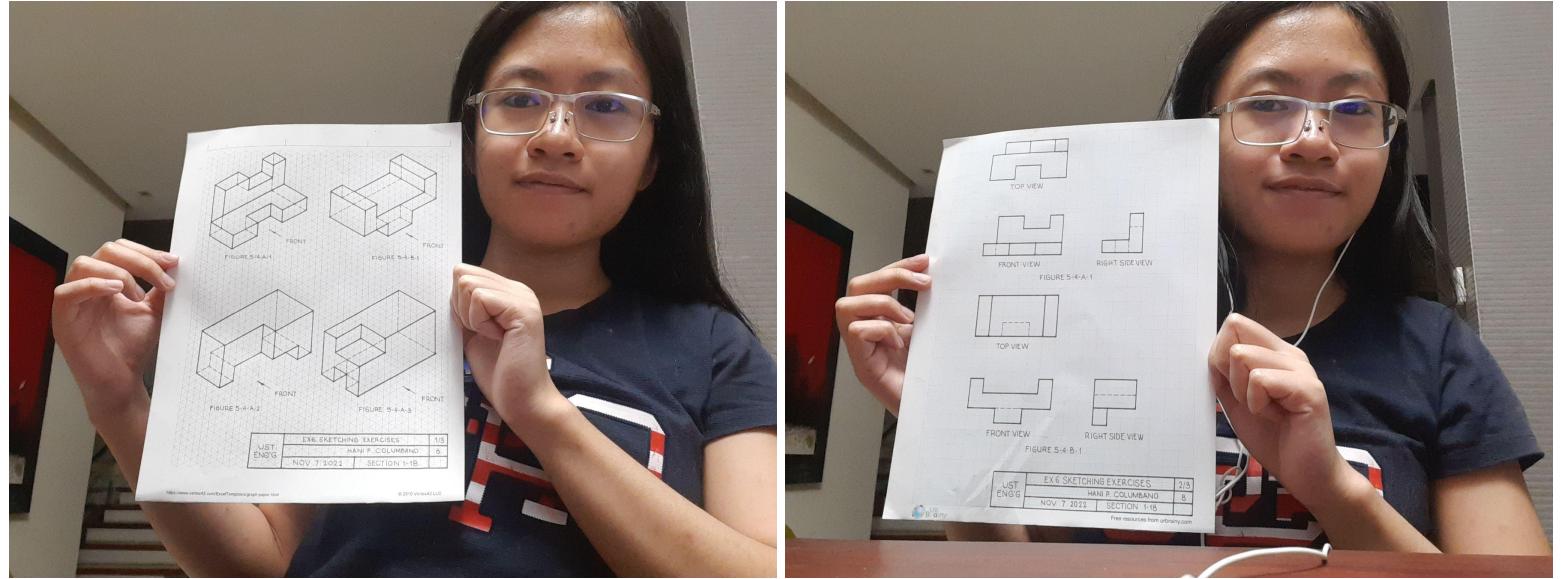
3/3

HANI P. COLUMBANO

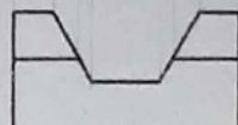
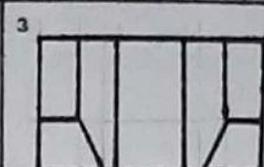
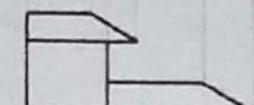
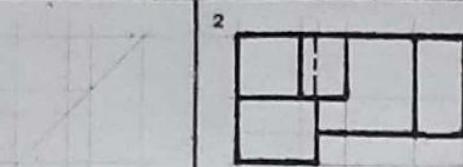
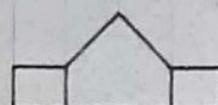
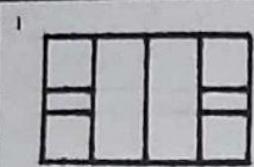
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NOV 7 2022

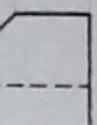
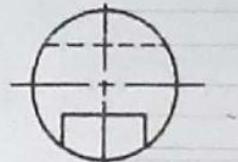
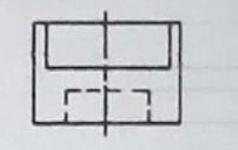
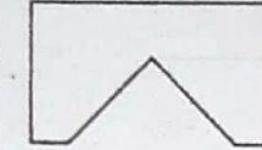
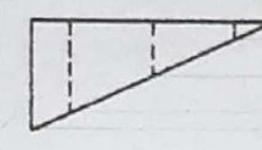
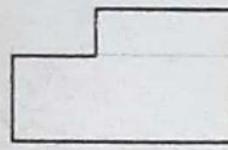
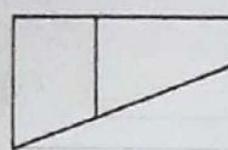
SECTION 1-18



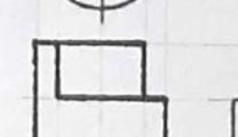
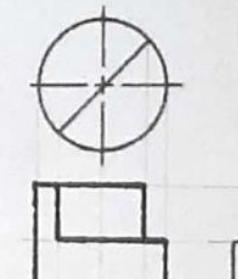
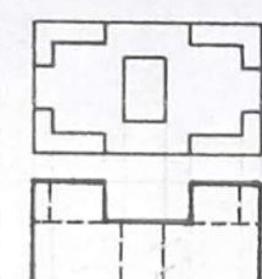
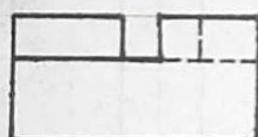
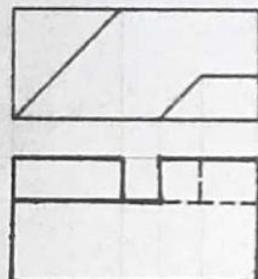
(A) COMPLETION TEST— TOP VIEWS: THE FRONT AND SIDE VIEWS BELOW ARE COMPLETE. DRAW THE TOP VIEWS.



(B) COMPLETION TEST— SIDE VIEWS: THE TOP AND FRONT VIEWS OF THE OBJECTS BELOW ARE COMPLETE. DRAW THE SIDE VIEWS.



(C) COMPLETION TEST— FRONT VIEWS: THE TOP AND SIDE VIEWS OF THE OBJECTS BELOW ARE COMPLETE. DRAW THE FRONT VIEWS.



(D) COMPLETION TEST— MISSING VIEWS: ONE OF THE VIEWS OF EACH OF THE OBJECTS IS MISSING. DRAW THE MISSING VIEWS.

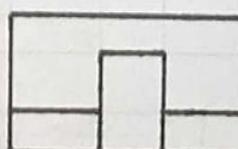
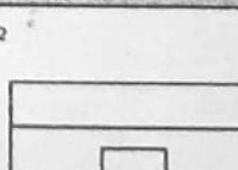
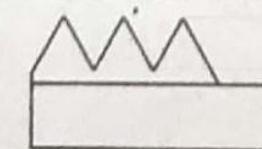
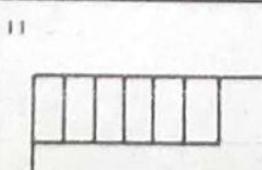
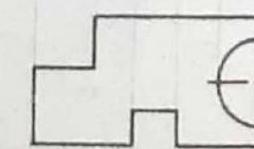
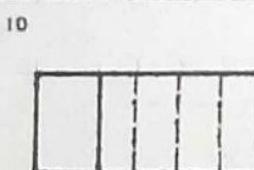
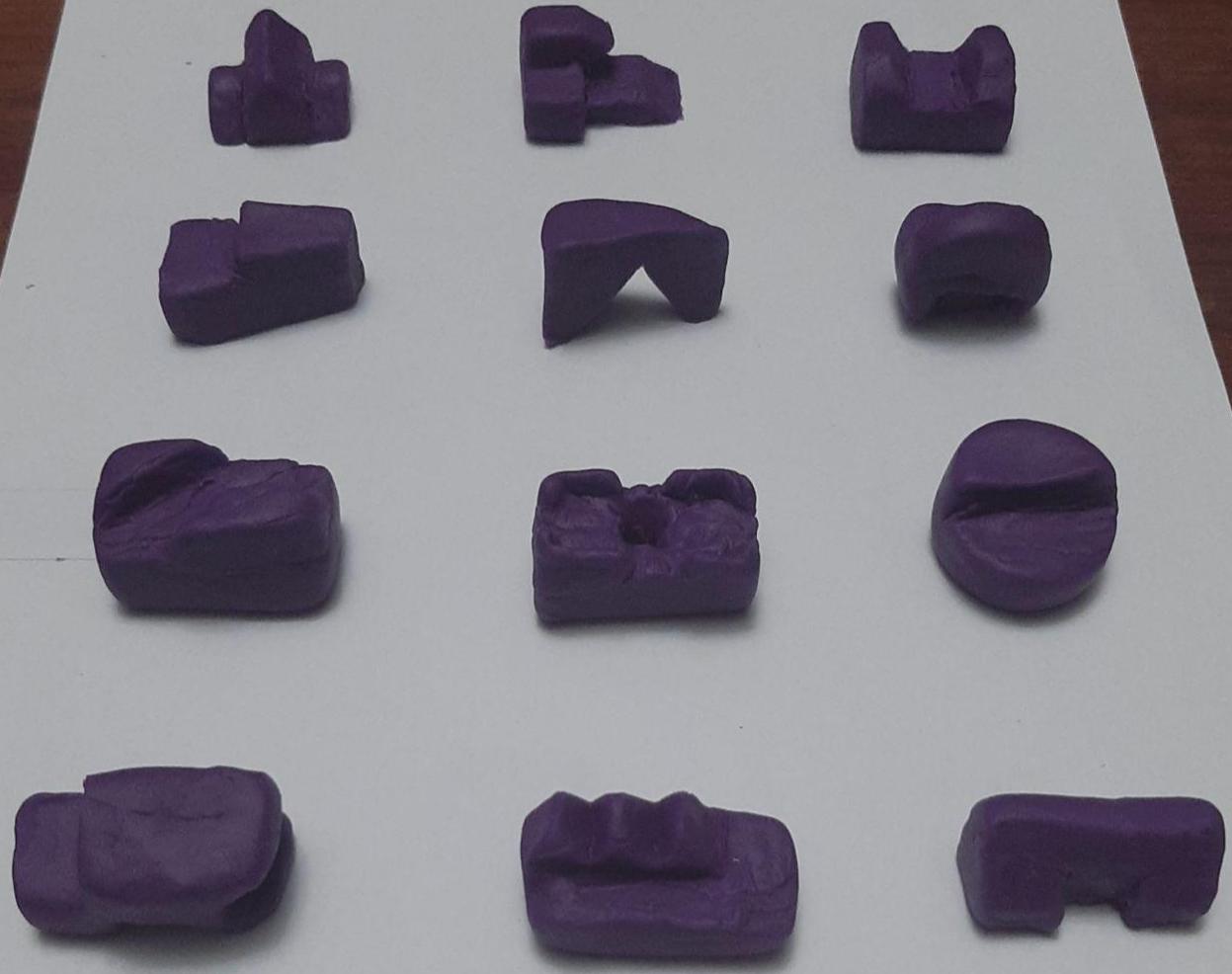
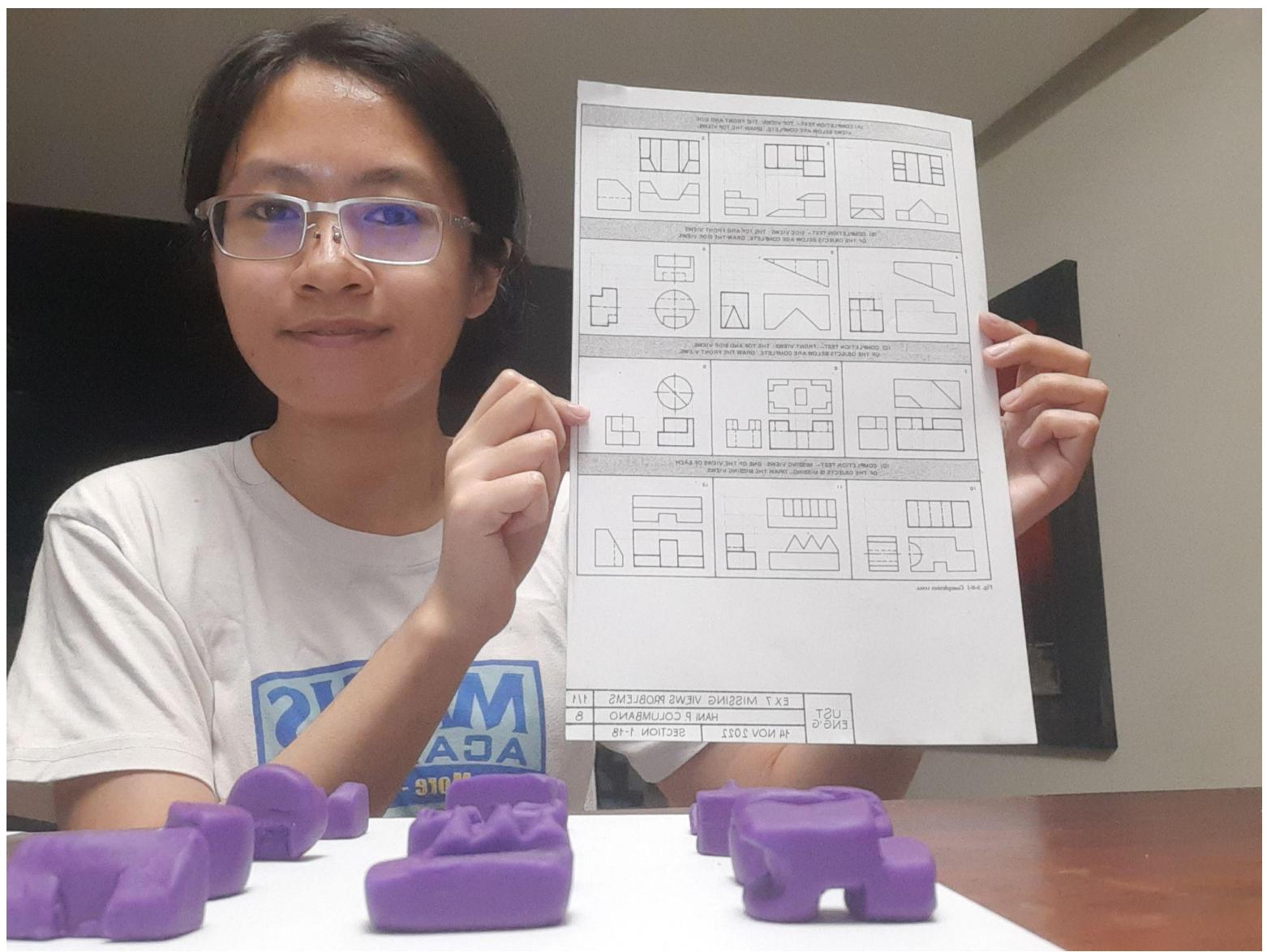


Fig. 5-8-J Completion tests.





ENGE	EX 1 MISSING ITEMS WORKSHEET
USET	HANII B. COLUMBANO
	SECTION 1-18

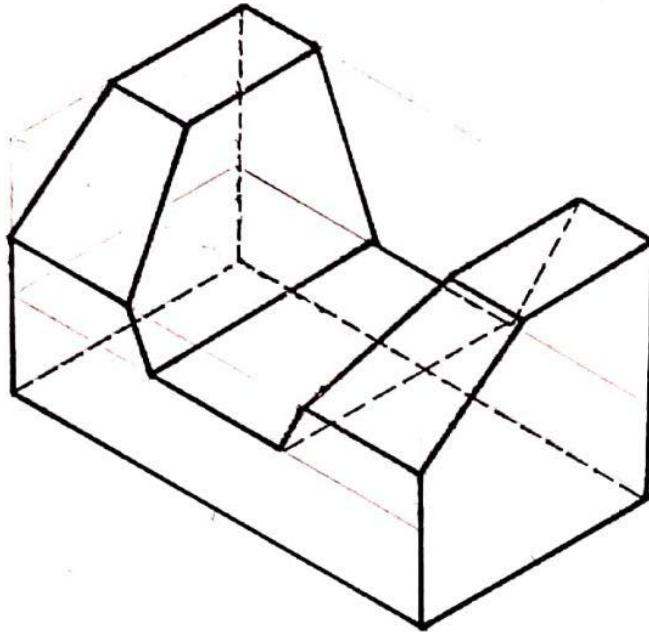


FIG.3 ISOMETRIC DRAWING
SCALE 2:1

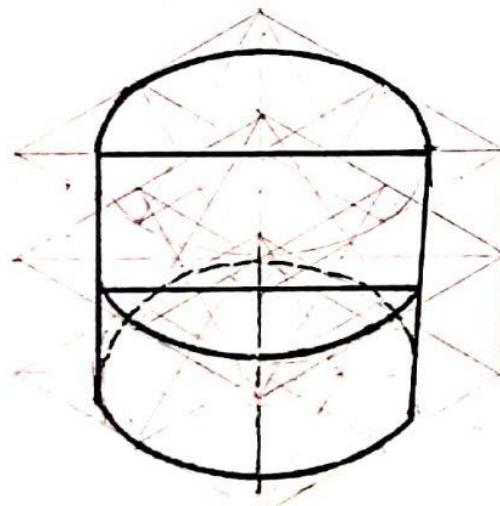


FIG.9 ISOMETRIC DRAWING
SCALE 2:1

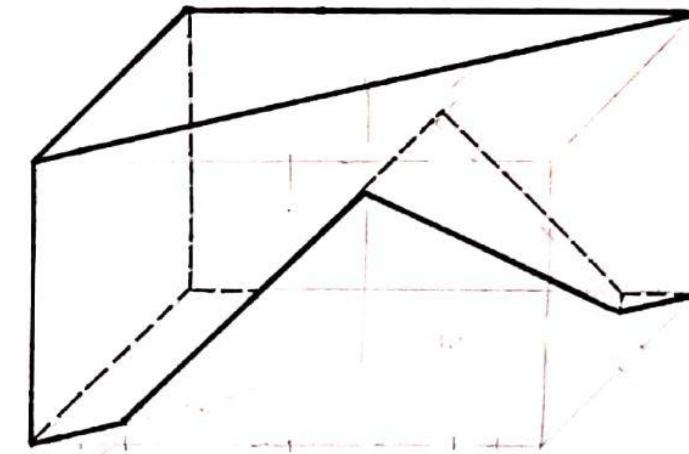


FIG.5 OBLIQUE DRAWING
SCALE 2:1

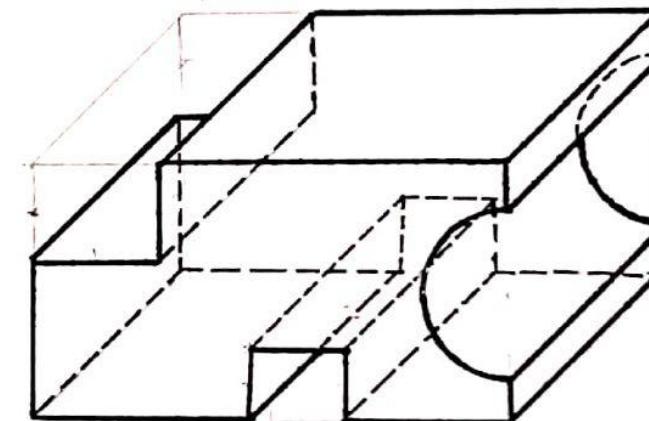


FIG.10 OBLIQUE DRAWING
SCALE 2:1

UST ENG'G	EX 8 ISOMETRIC & OBLIQUE DRAWING	1/1
	HANI P. COLUMBANO	8
	21 NOV 2022	SECTION 1-18

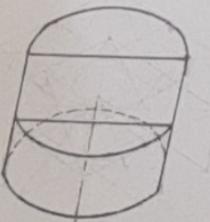


FIG. 9 ISOMETRIC DRAWING
SCALE 2:1

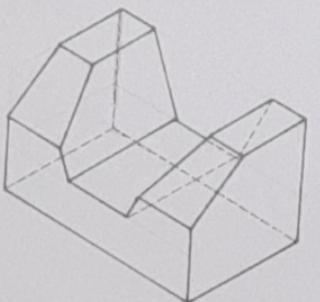


FIG. 3 ISOMETRIC DRAWING
SCALE 2:1

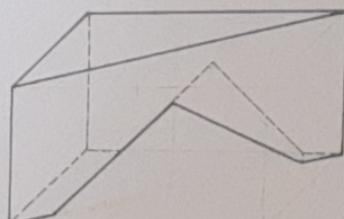


FIG.5 OBLIQUE DRAWING
SCALE 2:1

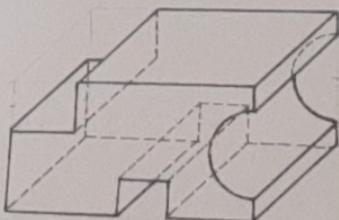
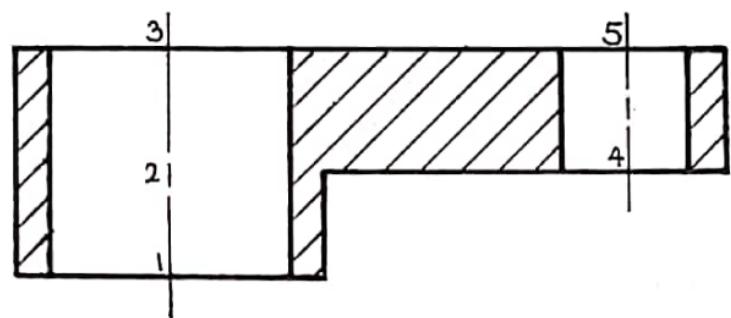


FIG.10 OBLIQUE DRAWING
SCALE 2:1

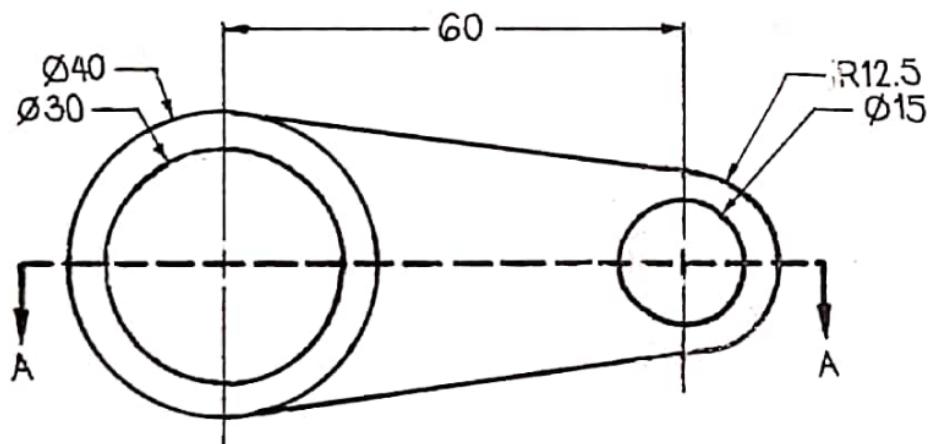
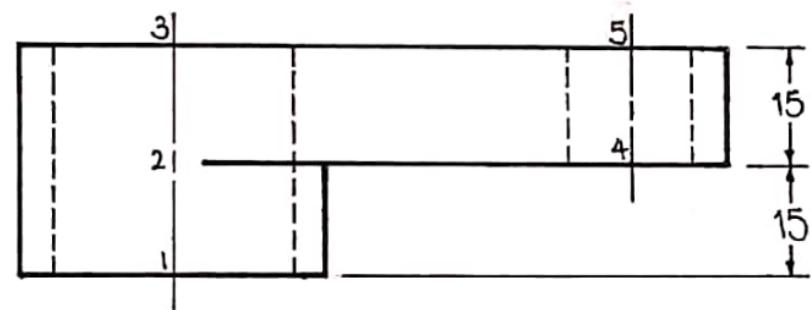
UST ENG'G	EX 8 ISOMETRIC & OBLIQUE DRAWING HANI P. COLUMBANO 21 NOV 2022	1/1 8 SECTION 1-1B
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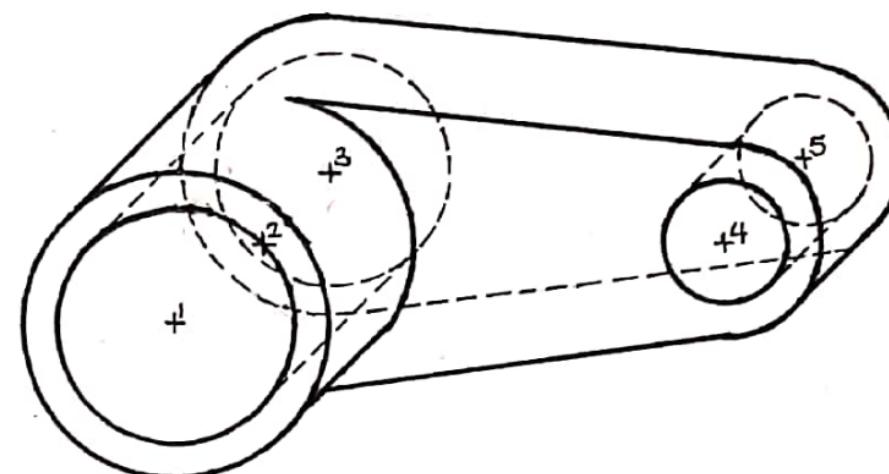
TOP SECTIONAL VIEW



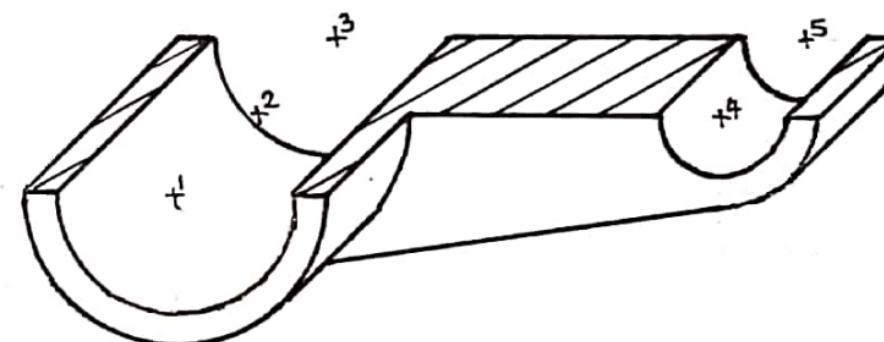
TOP VIEW



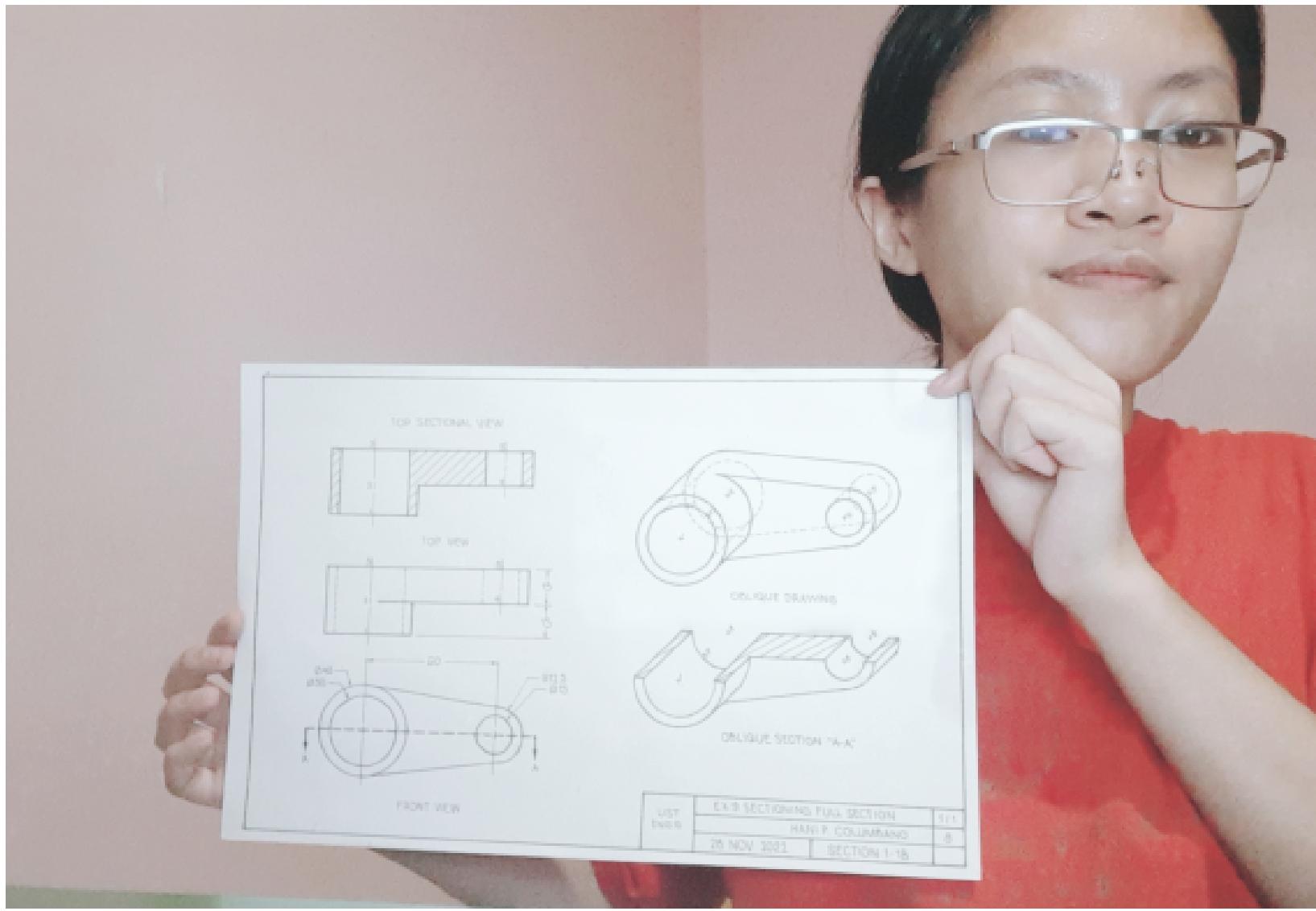
FRONT VIEW

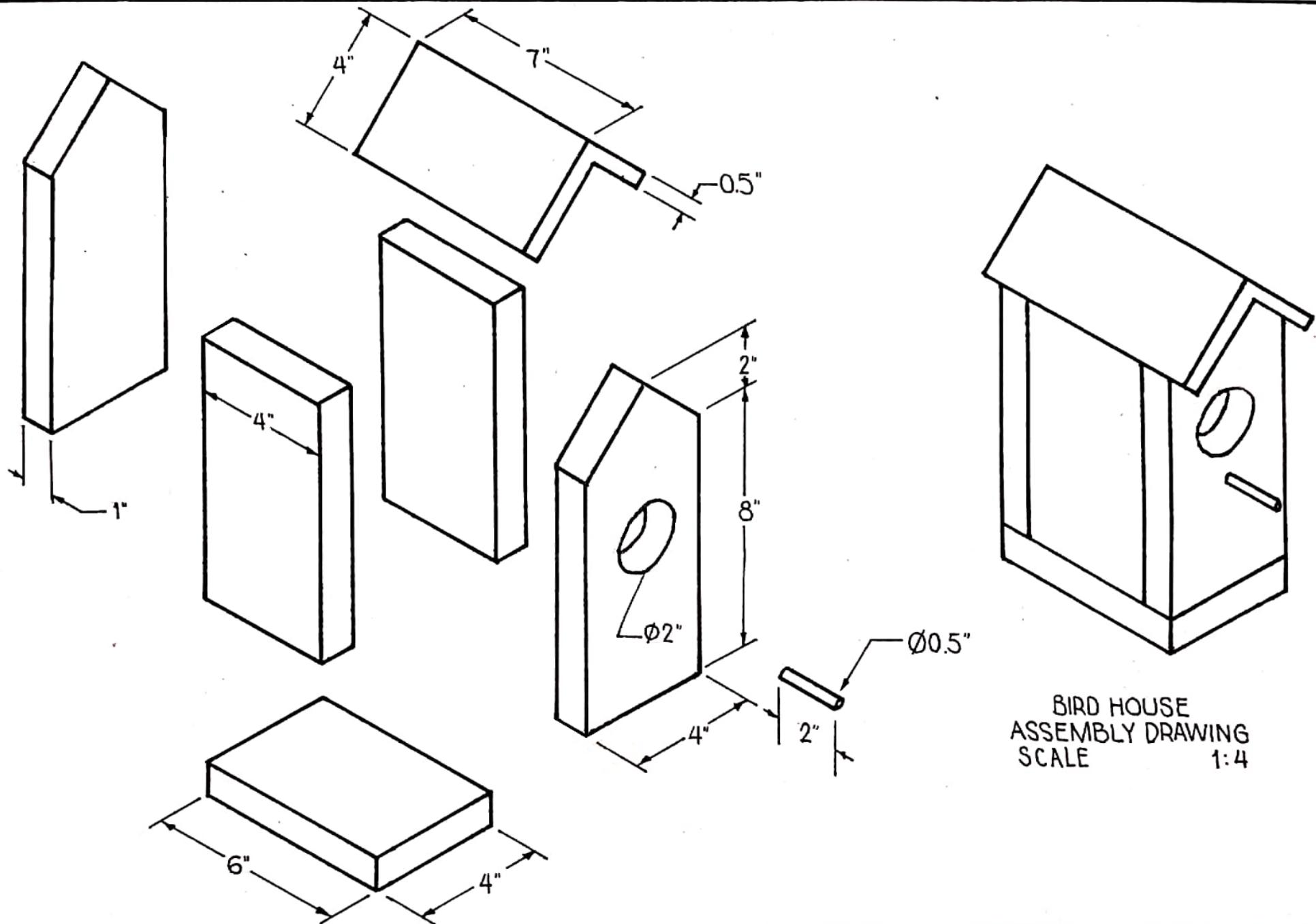


OBIQUE DRAWING



OBIQUE SECTION "A-A"





BIRD HOUSE
EXPLODED VIEW
SCALE 1:4

BIRD HOUSE
ASSEMBLY DRAWING
SCALE 1:4

UST
ENG'G

EXPLODED VIEW AND ASSEMBLED VIEW 1/1
HANIP. COLUMBANO 8
3 DEC 2022 SECTION 1-18

