THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATIONS COUNCIL OF TANZANIA

FORM TWO NATIONAL ASSESSMENT

070 TECHNICAL DRAWING

Time: 2:30 Hours **ANSWERS** **Year: 2018**

Instructions

1. This paper consists of sections **A** and **B** with a total of **seven (7)** questions**.**
2. Answer **all** questions in section A and any **two(2)** questions from section **B.**
3. Section **A** carries **forty (40)** marks and section **B** carries **sixty(60)** marks.
4. Cellular phones and any unathorized materials are **not** allowed in the assessmenmt room.
5. Write your **Assessment Number** at the top right hand corner of every page.

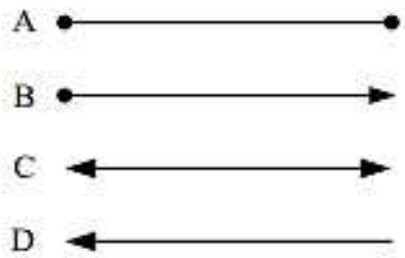
FOR ASSESSOR'S USE ONLY		
QUESTION NUMBER	**SCORE**	**ASSESSOR'S INITIALS**
1		
2		
3		
4		
5		
6		
7		
TOTAL		
CHECKER'S INITIALS		

SECTION A (40 MARKS)

Answer **all** questions in this section

1. Choose the correct answer from the given alternatives and write its letter in the box provided.

   i) Which of the following line is used for dimensioning in technical drawing?



The correct answer is C. The dimension lines have arrowheads which are placed on both ends of the lines. The aim of these type of line is to show the size of the part while the direction lines has arrowheads at only one side and uses to indicate the component or part of the component.

   ii) Horizontal guidelines are always used to get:

   A. a uniform height for numeral

   B. a uniform height for numbers

   C. a uniform height for style

   D. a uniform height of letter.

The correct answer is D. In Technical Drawing, he letters are required to be written in freehand, therefore to maintain the height and style the guide lines are used, while the numeral and symbols may be allowed to use drawing instruments such as drawing template.

iii) Which type of paper is commonly used for sketching accurately?

A. Ruled paper

B. Plain paper

C. Graph paper

D. A4 size paper.

The correct answer is B. This papers enables to sketch well.

iv) The dimensioning of a circle on technical drawing must be preceded by:

A. a number

B. a letter

C. a point

D. a line

The correct answer is B. In dimensioning circle, the first digit required to start is a letter a or symbol (can be symbol R as radius or symbol ϕ as diameter) then followed by number.

v) Why is it important to know the position of the given point and condition of movement when drawing locus?

A. In order to identify the starting position and trace the path of locus

B. In order to trace the position of path of locus upward and downward

C. In order to use position of point and scaled ruler to trace the path of locus

D. In order to use compass and starting position to trace the path of locus.

The correct answer is A. In order to identify the starting position and trace the path of the locus.

vi) The two common types of drawing scales shapes are:

A. triangular and curved

B. flat and rough C. triangular and vertical

D. triangular and flat.

The correct answer is D. Scale is the abbreviation which is used by the engineer in representing the actual object in drawing sheet. It may be reduced or enlarged depending on the needs. In representing an object Triangular and flat are common types of shape which are applicable to all standardised drawing.

vii) A plane figure with four sides having equal sides and equal opposite angle is called: A

A. Rhombus

B.Rhomboid

C. Trapezium

D Quadrilateral.

The correct answer is A. Trapezium is a quadrilateral with one pair of sides parallel and Quadrilateral is a polygon with four sides.

viii) In orthographic projection sphere object are presented by:

A. three views
B. one view
C. four views
D. two views.

Answer is B. That sphere is the perfect round object in three dimensional spaces that is the surface of a completely round ball. So when viewing front, top or side, the shape and dimension are the same

ix) In standard ISO and drawing sheet in Technical Drawing, A_1 contains:

A. two A_3

B. three A_3

C. four A_3

D. five A_3

The answer is C. According to ISO, the dimension of sheet decreases as the number increases. Example A0 is the twice as much as A1, A1 is twice as much as A2, A2 is twice as much as A3

x) The two common types of pictorial presentation in drawing are:

A. Isometric and Oblique drawing

B. Orthographic and Oblique drawing

C. Auxiliary and Orthographic drawing

D. Orthographic and Isometric drawing.

The answer is A. Isometric and Oblique views are three dimensional views whereby height, width and length are indicated in one drawing, while orthographic is two dimensional views where by object can show length and height, width and length or width and height.

2. For each of the following statementrs, Write **TRUE** for correct statement and **FALSE** for an incorrect statement.

i) Front elevation, plan and side elevation are drawn from orthographic drawing.....**FALSE**

ii) Square can be constructed equal in area from a rectangle..... **TRUE**

iii) Bisection of lines means to divide it into four equal parts.....**FALSE**

iv) There should be space between the lettering words..... **TRUE**

v) The size 420mm×594mm is A2 standard sheet..... **TRUE**

vi) The octagon is a polygon figure drawn with seven ides.**FALSE**

vii) Cavalier is one of the full pictorial projection drawing.....

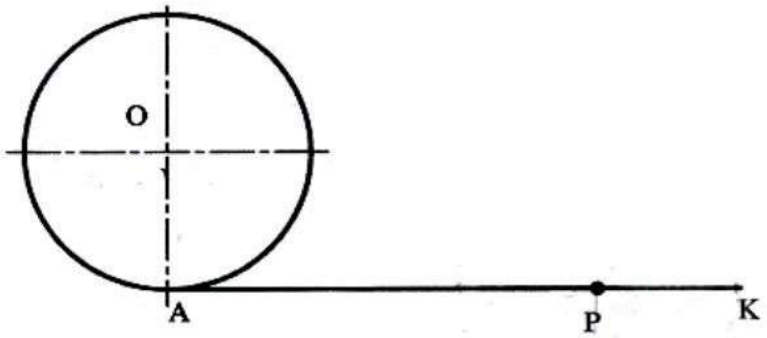
viii) The unit measure of the size length should be shown by capital letter.**FALSE**

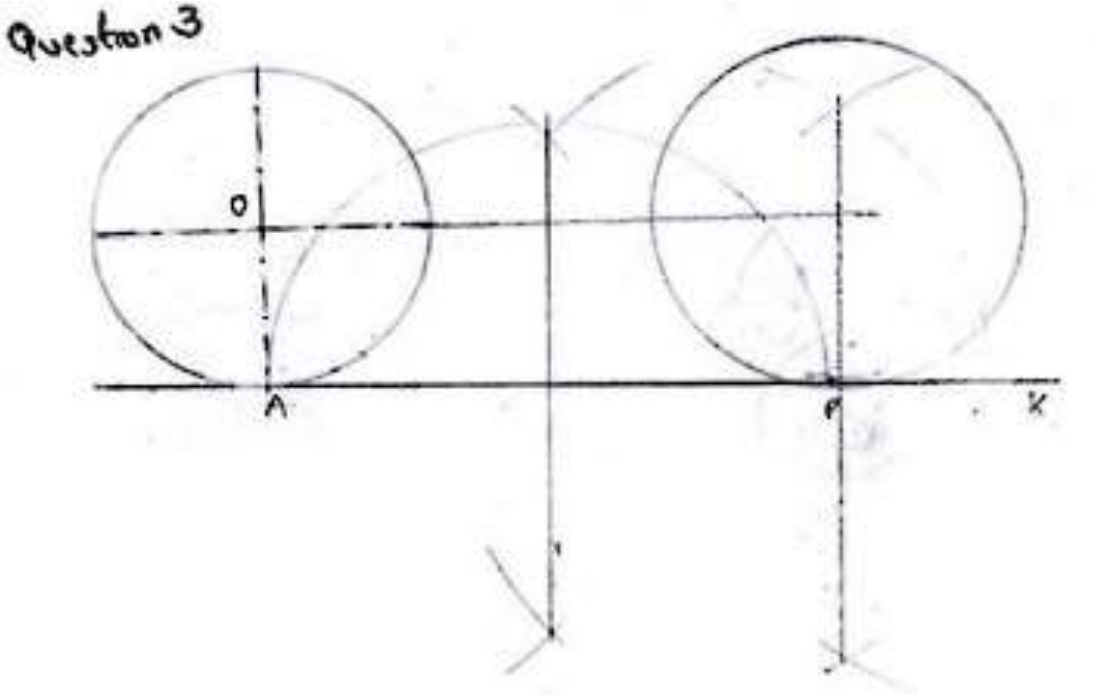
ix) Metric scale as used when drawing are made in both metric and imperial.

FALSE

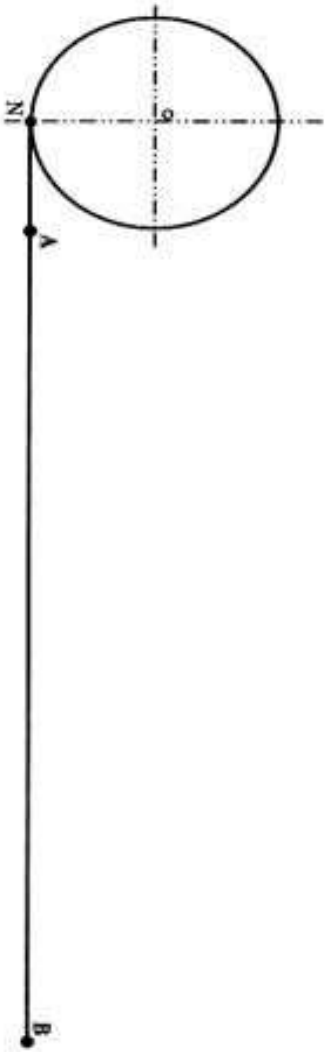
x) Engineers use free hand sketch to convey the message for machine design or modification..... **TRUE**

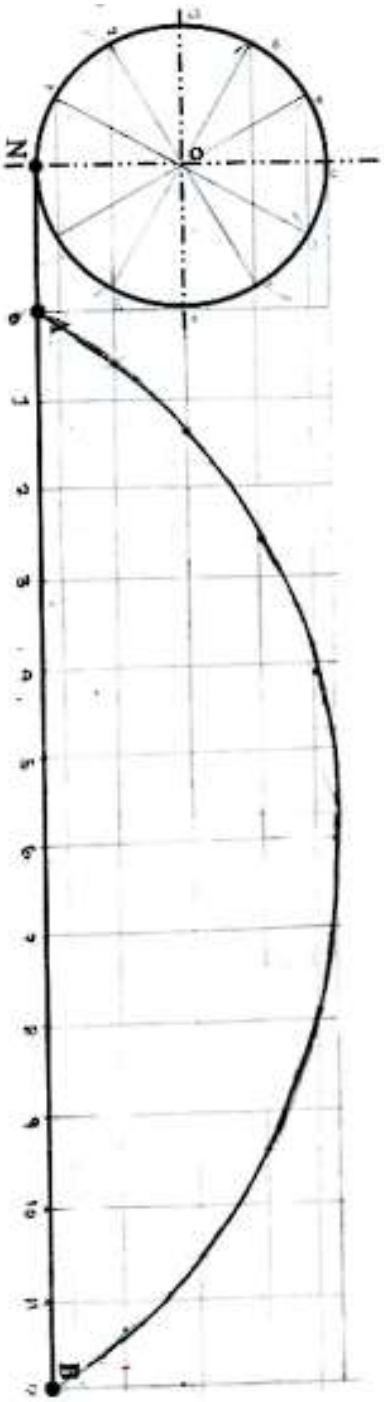
3. Figure 1 shows a circle and its horizontal tangent AK. Draw another circle which is tangential to to line AK through point P and touches the given circle.





4. Figure 2 shows a circle with centre **O** and a point **N** from which the circle touches the ground. Trace the path of point **N** as a circle rolls without sliding along straight line ab on circle circumference. name of the points to obtain the path.

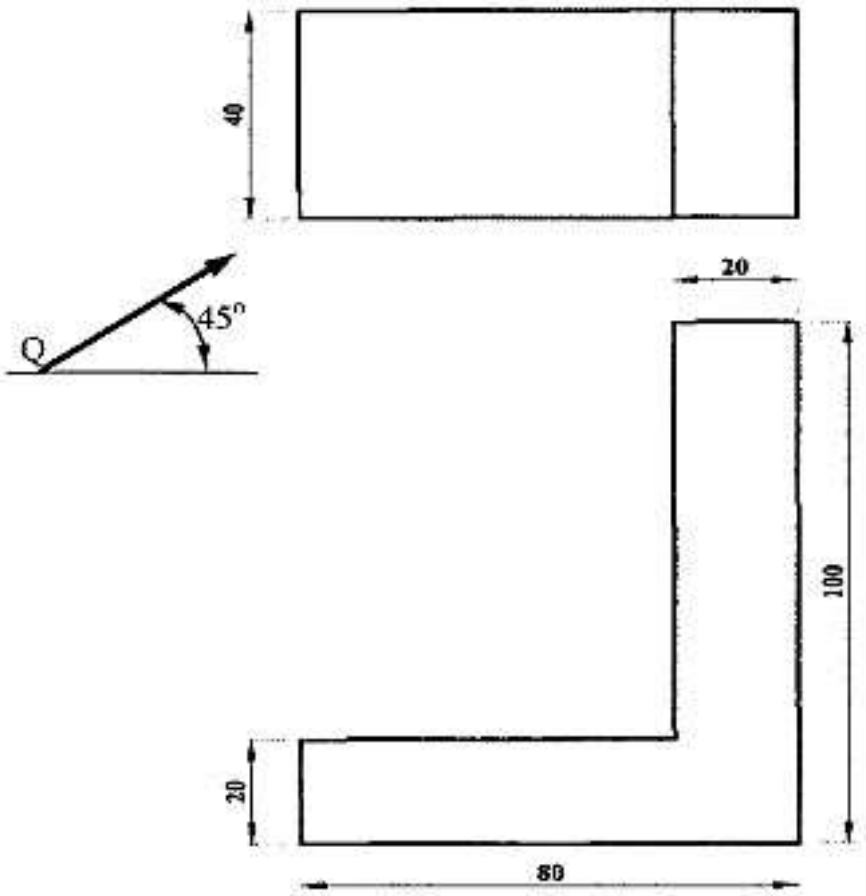


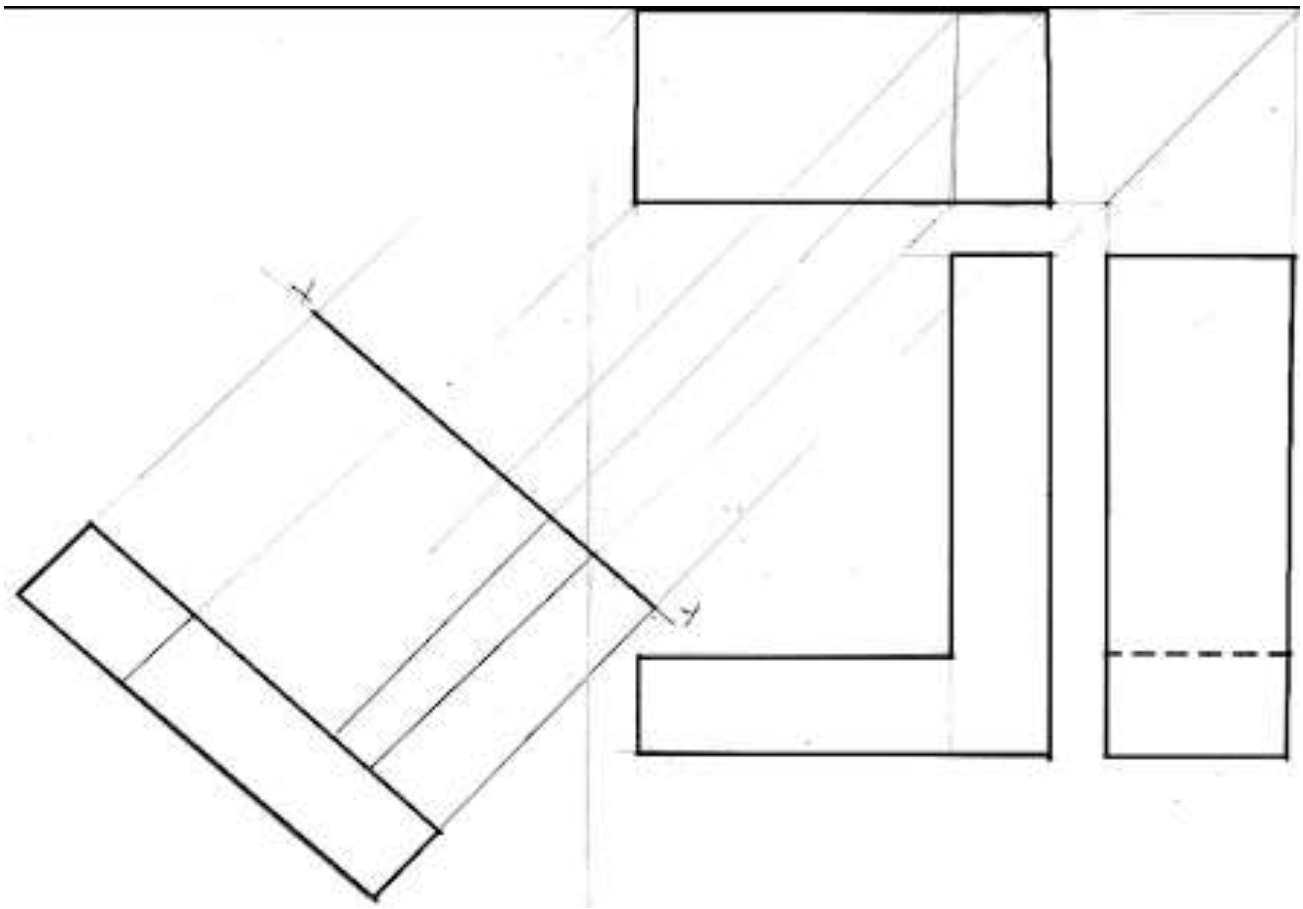


SECTION B (60 Marks)

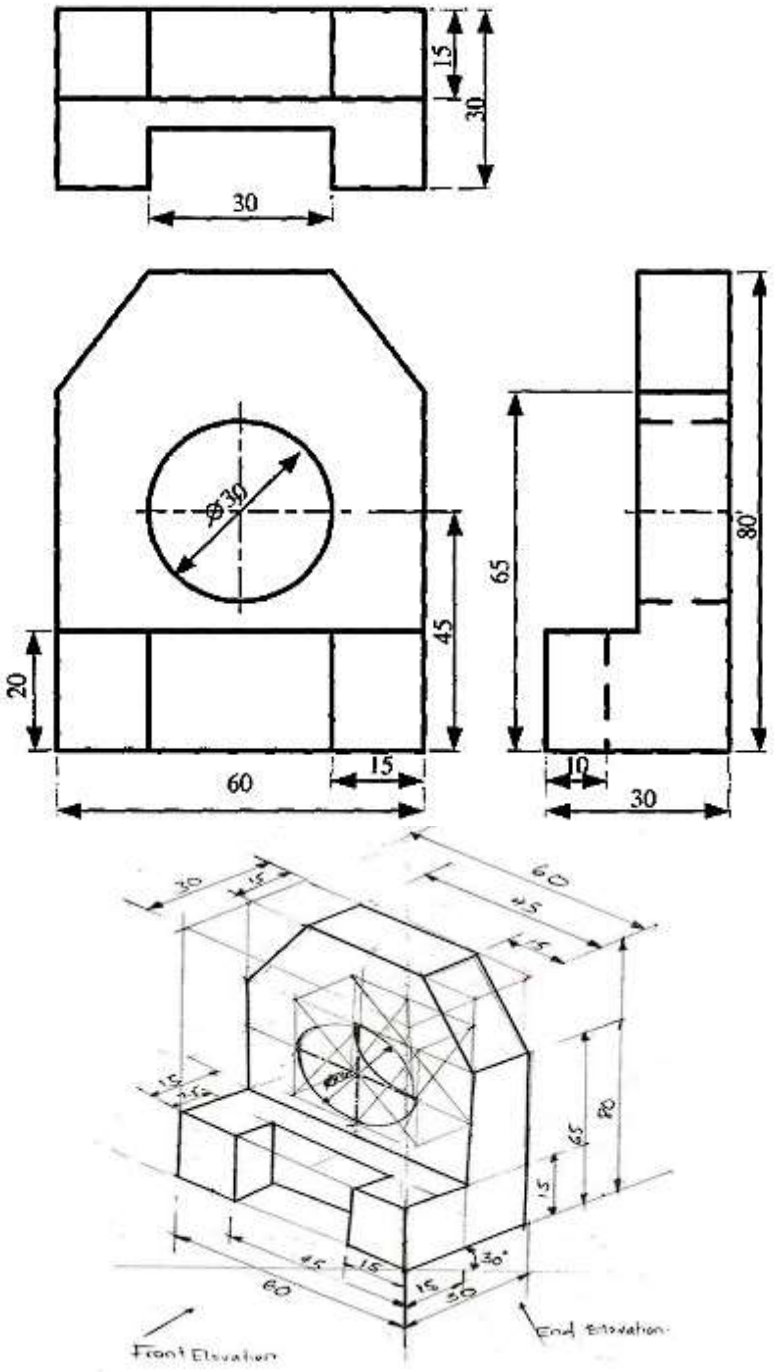
Answer **any two (2)** questions

5. Figure 3 shows othographic views in third angle projection. Draw the following views and auxilliary view as seen from arrow **Q.**





6. Figure 4 shows a three views of a bracket in third angle projection. Use the views to show the pictorial drawing in isometric projection. Do not rub constructions lines.



7. Figure 5 shows isometric block drawn in millimeters. Draw the following views in first angle projection:

   i) Front elevation looking from an arrow **B**

   ii) End elevation from an arrow **A** iii) Plan

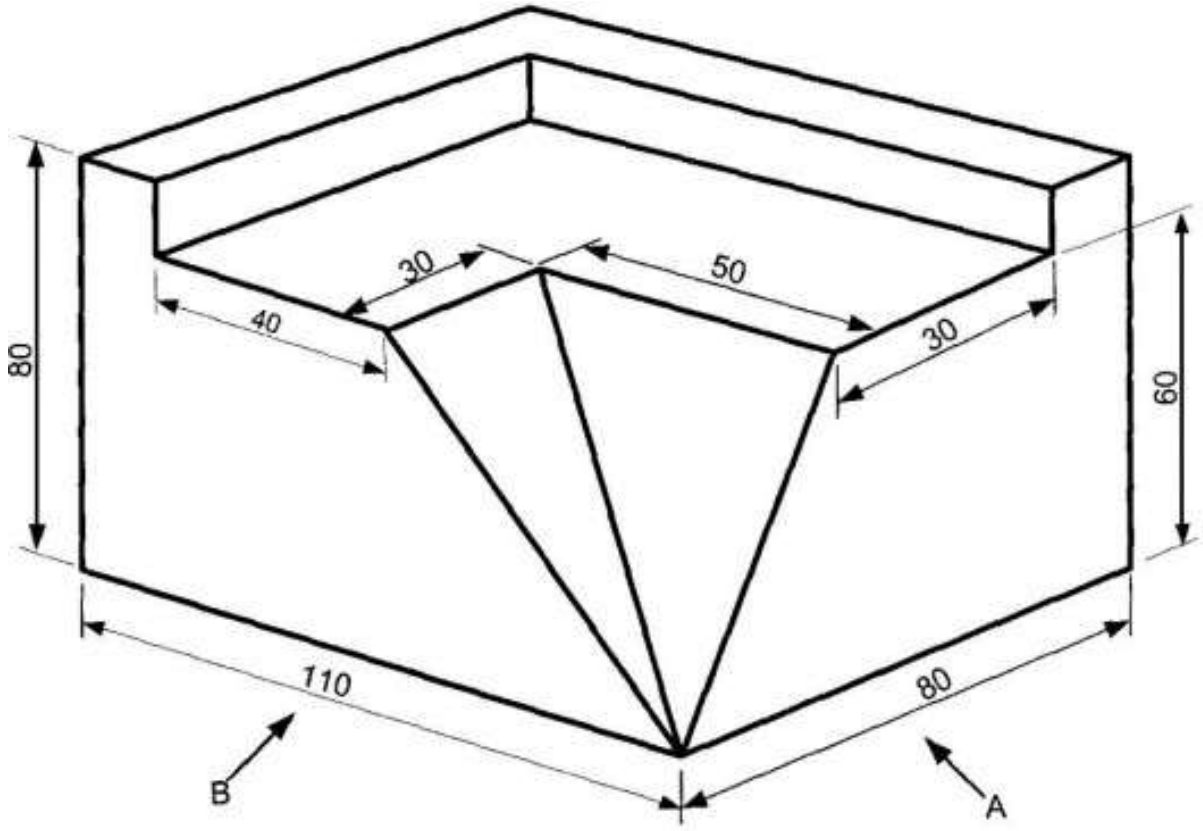


Figure 5