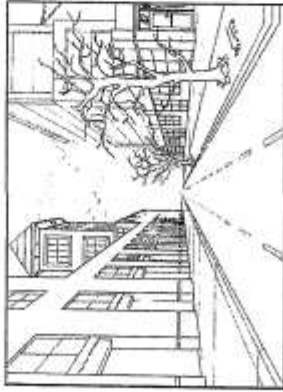


HILLCREST HIGH SCHOOL
ENGINEERING GRAPHICS AND DESIGN EXAM
MIDYEAR EXAM



GRADE 10
 2018
 PAPER 1

TIME: 2 hours

MARKS: 86

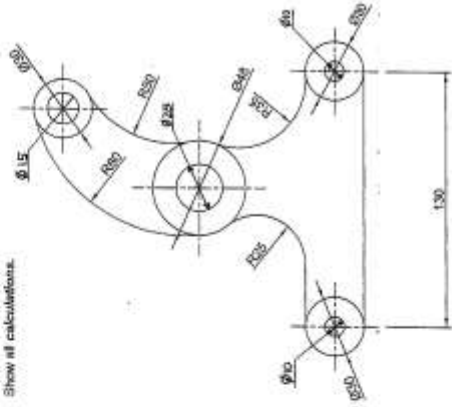
NB: READ THE INTRUCTIONS

1. This paper consists of 4 pages including the cover page and 3 questions.
2. Answer **ALL** questions.
3. Take note of the mark allocation in each question.
4. The questions must be answered on the answer sheets provided.
5. All the answer sheets must be **re-stapled in NUMERICAL** sequence and handed in **irrespective** of whether the question was attempted or not.
6. Time management is essential in order to complete all the questions.
7. Print your Name in the block provided on **EVERY** answer sheet.
8. All answers must be drawn accurately and neatly.
9. Any details or dimensions not given must be assumed in good proportion.

QUESTION	SECTION	MARK	MODERATE	MAXIMUM
1	TANGENCY			35
2	ISOMETRIC			28
3	CASTING			23
TOTAL				86
SYMBOL				100

NAME: _____
 TEACHER: _____

The figure below shows a MECHANICAL CASTING BRACKET. All centre positions and full circles are shown. Using only your drawing instruments and the dimensions given, draw the casting accurately. Show all arcs centres. Show all points of contact. Show all constructions. Show all calculations.

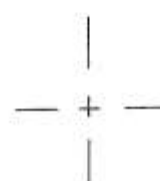
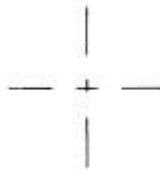


Write in the space provided how you do the following:

- Draw a circle
- Draw a tangent
- Draw a perpendicular
- Draw a parallel

8	8	8	5	8	6	35
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NAME: _____



CALCULATIONS:

QUESTION ISOMETRIC DRAWING

Given:

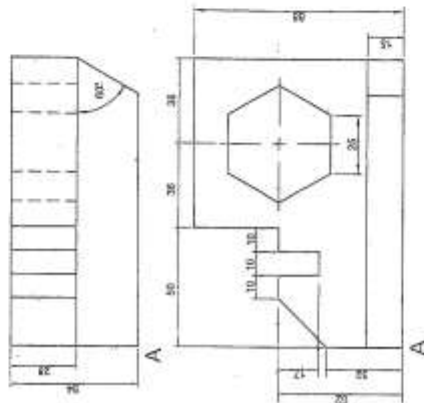
- The top view and front view of a model drawn in third angle orthographic projection
- The position of point A on the drawing sheet

Instructions:

Using scale 1 : 1, convert the orthographic views of the model into an isometric drawing.

- Make A the lowest point of the drawing.
- Show ALL necessary construction.
- NO auxiliaries may be used.
- NO hidden detail is required.

[28]



A

ASSESSMENT CRITERIA		
1	ISOMETRIC LINES	15
2	NON-ISOMETRIC LINES	8
3	HEAVYDOR & AUX VIEW	7
TOTAL		30
NAME		

The figure shows the front view, top view and right view of a **CASTING** in Third Angle Orthographic Projection.

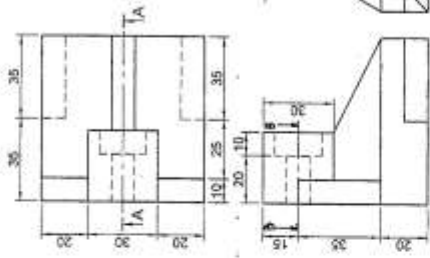
Draw the following in Third Angle Orthographic:

- 3.1. a **Sectional Front View** on the cutting plane A-A;
- 3.2. a **Sectional Top View** on the cutting plane B-B;

- show all construction
- show no hidden detail
- show all cutting planes and centre lines
- label the views

ASSESSMENT CRITERIA
 You will be assessed on your ability to:

1. SECTIONAL FRONT VIEW
2. SECTIONAL TOP VIEW
3. SHOW ALL CONSTRUCTION
4. SHOW NO HIDDEN DETAIL
5. SHOW ALL CUTTING PLANES AND CENTRE LINES
6. LABEL THE VIEWS CORRECTLY
7. LABEL THE VIEW CORRECTLY
8. SHOW AREAS NOT SECTIONED AND
9. LABEL THE AREAS CORRECTLY



IV	H2
IV	H1

NAME