



**Kulleġġ San Nikola Skola Sekondarja tan-Naxxar**  
**St. Nicholas College Secondary School Naxxar**  
**Half-Yearly Examinations**  
**February 2016**

Track/Level

FORM 4 (2<sup>nd</sup> Year)      Subject: Graphical Communication      Time: 2 Hours

Name \_\_\_\_\_

Class \_\_\_\_\_

### Instructions

- Write your name and class on all sheets.
- Attempt **all** questions.
- Questions should be attempted on the pre-printed answer sheets provided
- All answers are to be drawn accurately with instruments, unless otherwise stated.
- All construction lines **MUST** be left on each solution to show the method used.
- Drawing aids may be used.

### Information

- All dimensions are in millimetres.
- Estimate any dimension not given.
- Marks will be awarded for accuracy, clarity, neatness and appropriateness of construction.

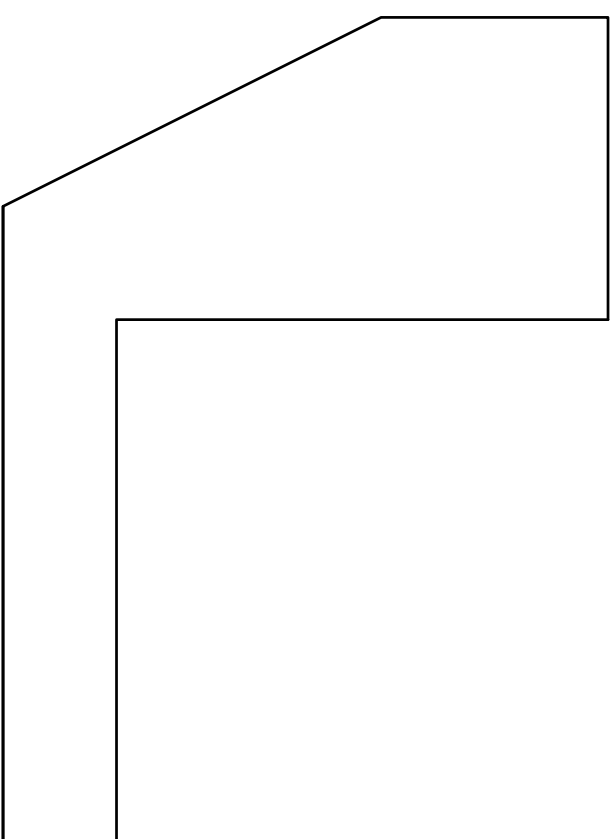
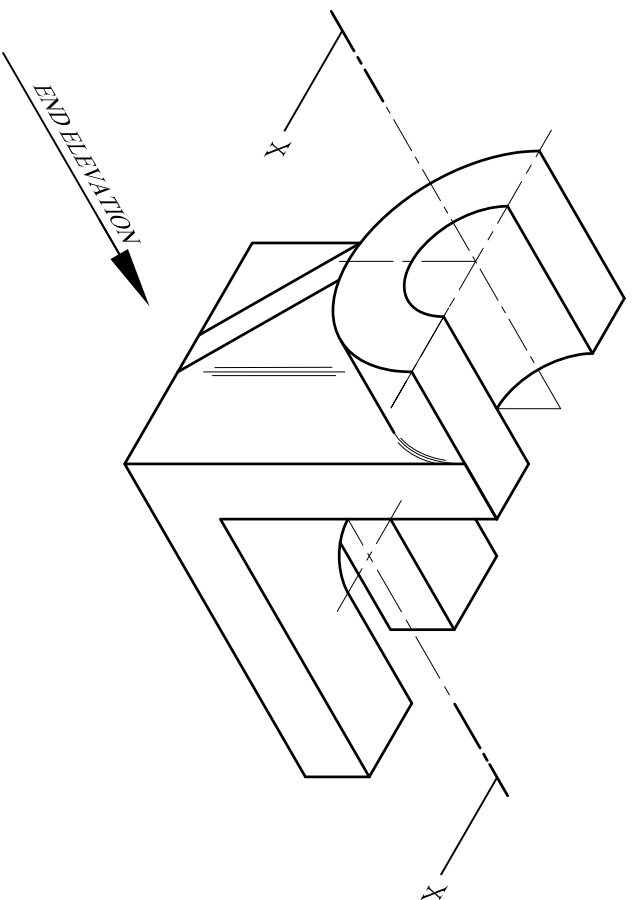
| Question              | 1         | 2         | 3         | 4         | 5         | 6         | Total      |
|-----------------------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
| <b>Mark allocated</b> | <b>18</b> | <b>16</b> | <b>15</b> | <b>18</b> | <b>15</b> | <b>18</b> | <b>100</b> |
| <b>Marks awarded</b>  |           |           |           |           |           |           |            |

**Question 1.**

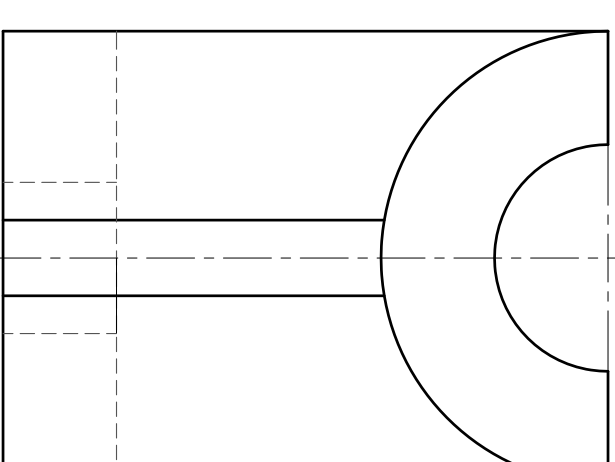
The figure below shows a **Metal Component**. In First Angle Projection draw:

- a) a Sectional Front Elevation X-X
- b) the Symbol and write the Scale used.

**18 Marks**

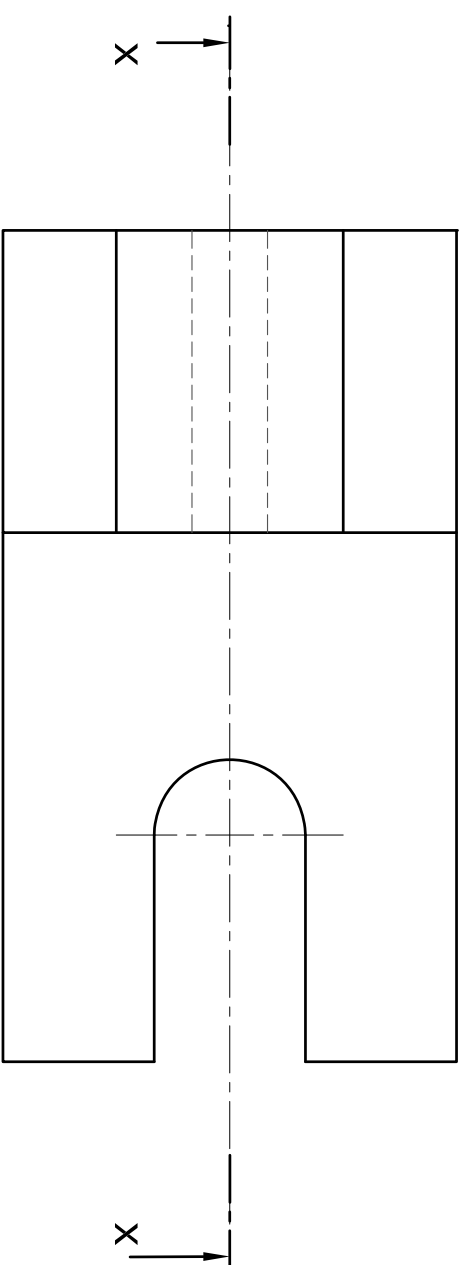


SECTION X-X



END ELEVATION

SCALE \_\_\_\_\_



PLAN

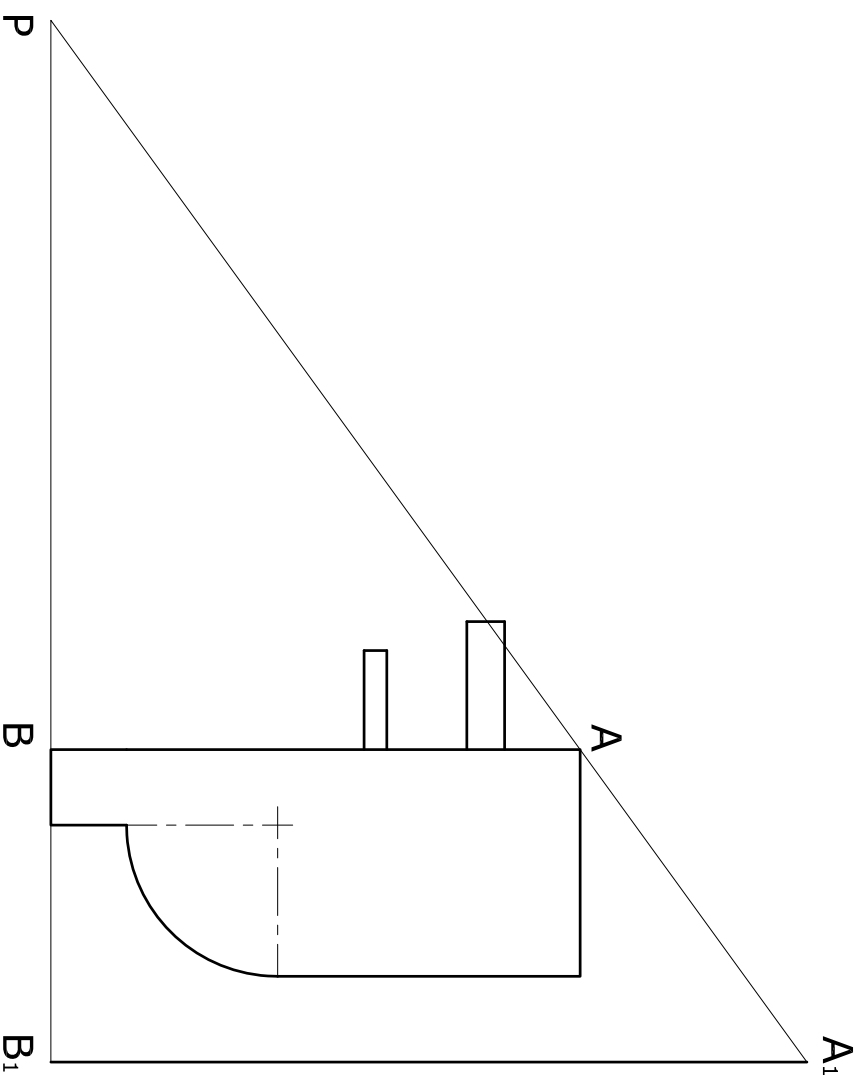
**Question 2**

The figure below shows the simplified profile of a mobile phone charger. **By means of geometrical construction, AB has been enlarged to A<sub>1</sub>B<sub>1</sub>.**

**Complete** the construction to **enlarge** the whole drawing **using P as the pole**.

- Notes: i) Start by drawing the body of the charger
- ii) Finish by drawing the pins.

**16 marks**



**Question 3.**

The drawing on the right shows the outline of a pool.

On the start lines provided:

- i) construct the elliptical part
- ii) include the tangent at point A.

The following are the dimensions to be used:

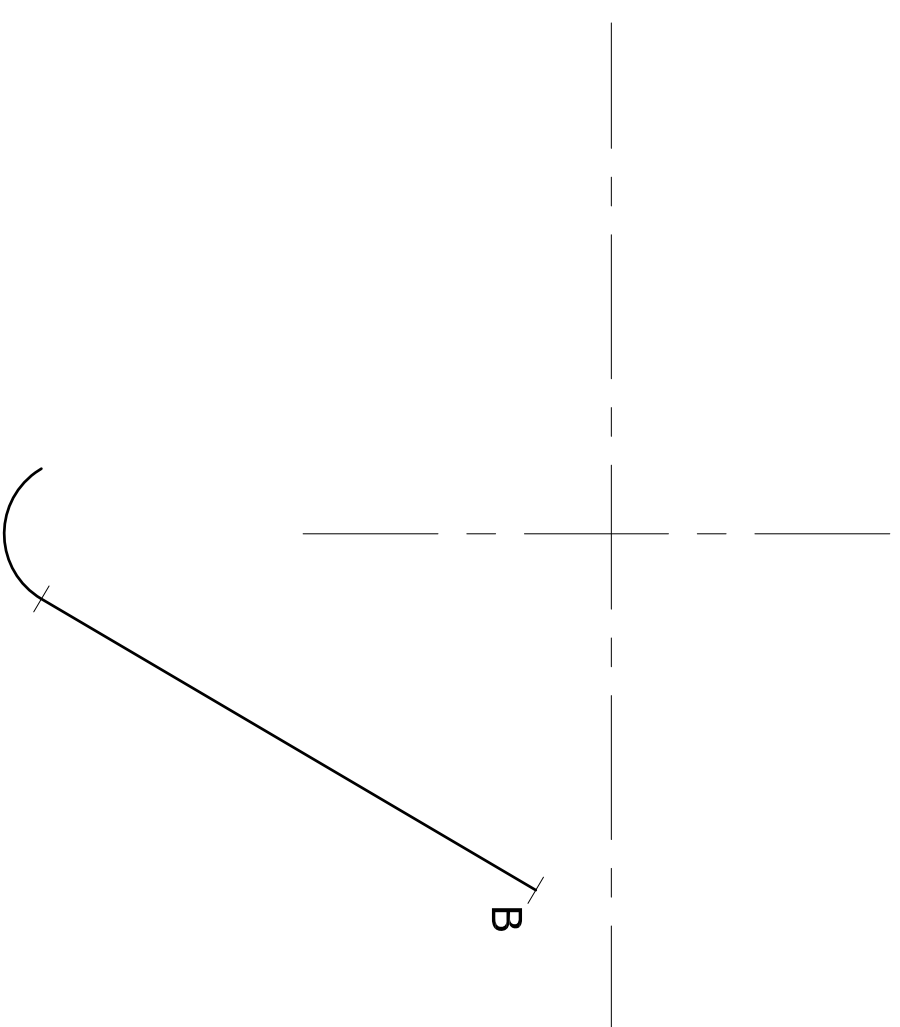
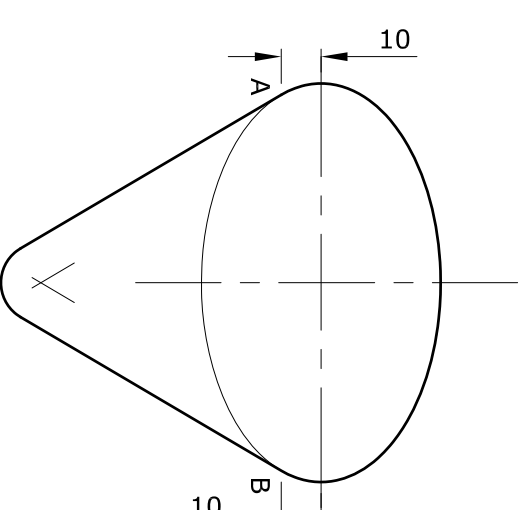
Major axis = 100 mm

Minor axis = 60 mm

Arc = R10

**Note:** One tangent and the circular part are already given.

**15 marks**



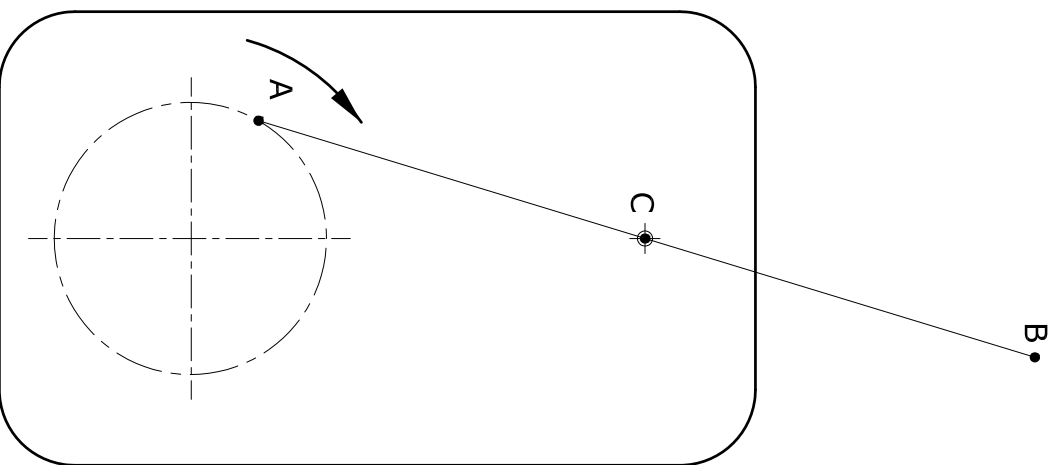
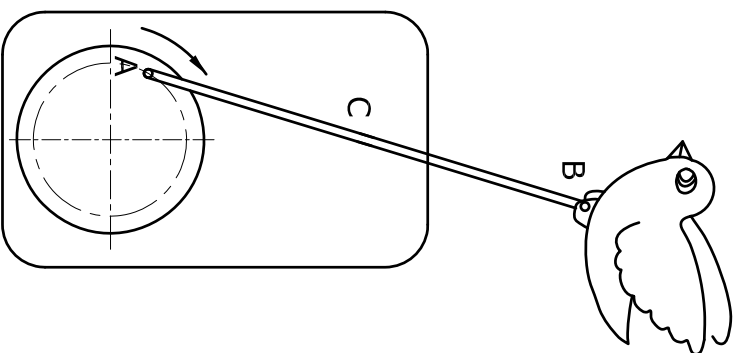
**Question 4**

The figure on the right shows a mechanical display created by a student. It consists of a disk (crank) and a link AB.

**Notes:** i) 'A' is the pin that joins the link to the disk.  
ii) The link slides through the fixed centre C.

On the line diagram below, **plot** the **locus** of point 'B' (i.e. the point that joins the bird figure to the link) for one revolution.

**18 marks**



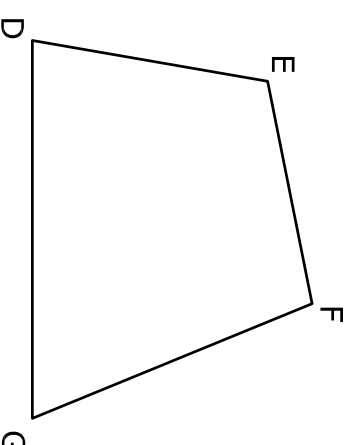
**Question 5**

An **irregular quadrilateral** DEFG is given below. By means of geometrical construction convert it to a **square** having the same area.

**Measure and write down** the length of one side of the square to the nearest millimetre.

*Leave all construction lines visible.*

**15 marks**



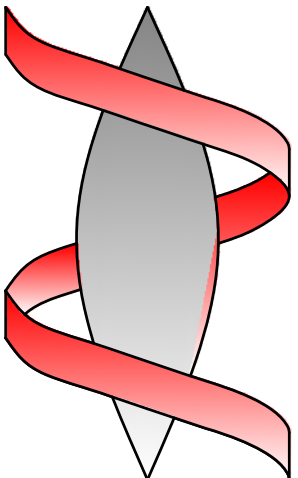
Size of one side: \_\_\_\_\_

**Question 6.**

The logo of a new company is shown on the right.  
The logo is produced by constructing one and a half ( $1\frac{1}{2}$ ) turns of two left hand helices.

- i) On the given start lines, construct the helical part of the logo.
- ii) Shade the logo with colours.

**Notes:** The pitch and diameter are given on the start lines below.



**Show all construction.**

**18 marks**

