DEPARTMENT FOR CURRICULUM,
RESEARCH, INNOVATION AND LIFELONG LEARNING
Directorate for Learning and Assessment Programmes
Educational Assessment Unit

Annual Examinations for Secondary Schools 2018

YEAR 9 **GRAPHICAL COMMUNICATION** **TIME: 2 hours**

Instructions

- Write your name and class on all sheets.
- Attempt ALL questions.
- 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 employed.
- Drawing aids may be used.

Information

- All dimensions are in millimetres.
- Estimate any missing dimensions.
- Marks will be awarded for accuracy, clarity and appropriateness of construction.

This section is for teachers' use only.

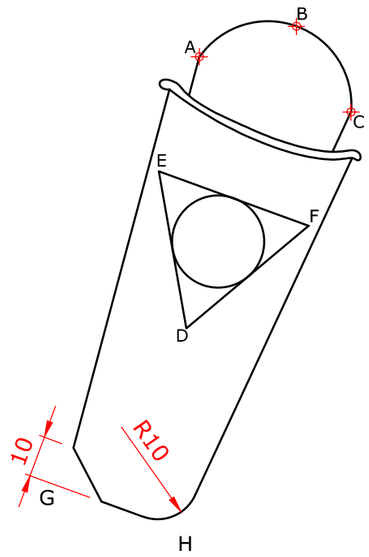
Question	1	2	3	4	5	6	7	**Total**
Marks allotted	14	11	14	14	12	17	18	100
Marks awarded								

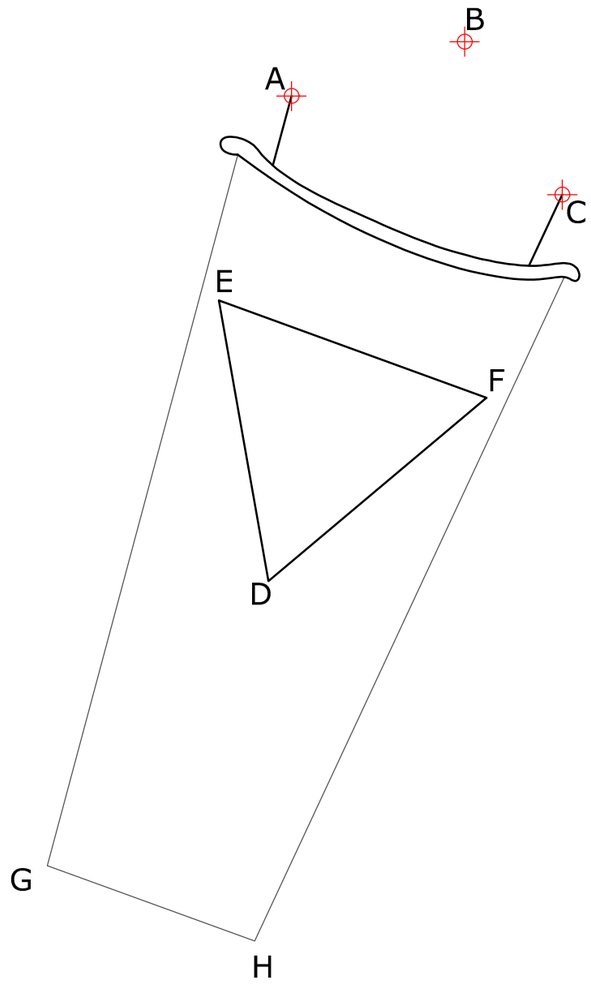
Question 1: Geometrical construction.

The drawing on the right shows an ice-lolly sticker.
Reproduce this drawing by using the following information.
On the starting lines given:

1. draw the 10X10 chamfer at corner **G**;
2. add the R10 fillet arc at corner **H**;
3. construct a 3-point circle passing from points **A**, **B** and **C**;
4. inscribe a circle to triangle **DEF**.

(14 marks)





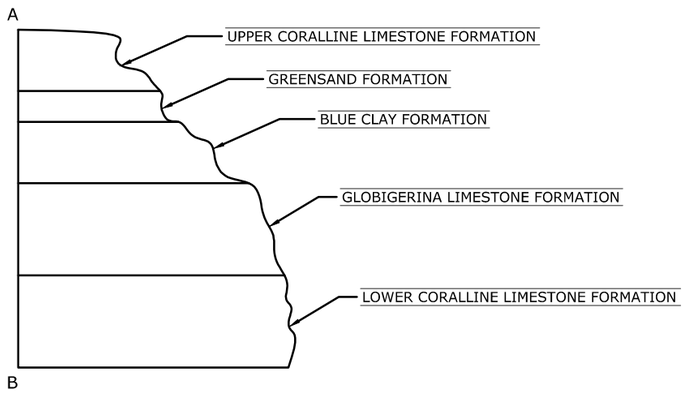
Question 2: Division of a line and Lettering.

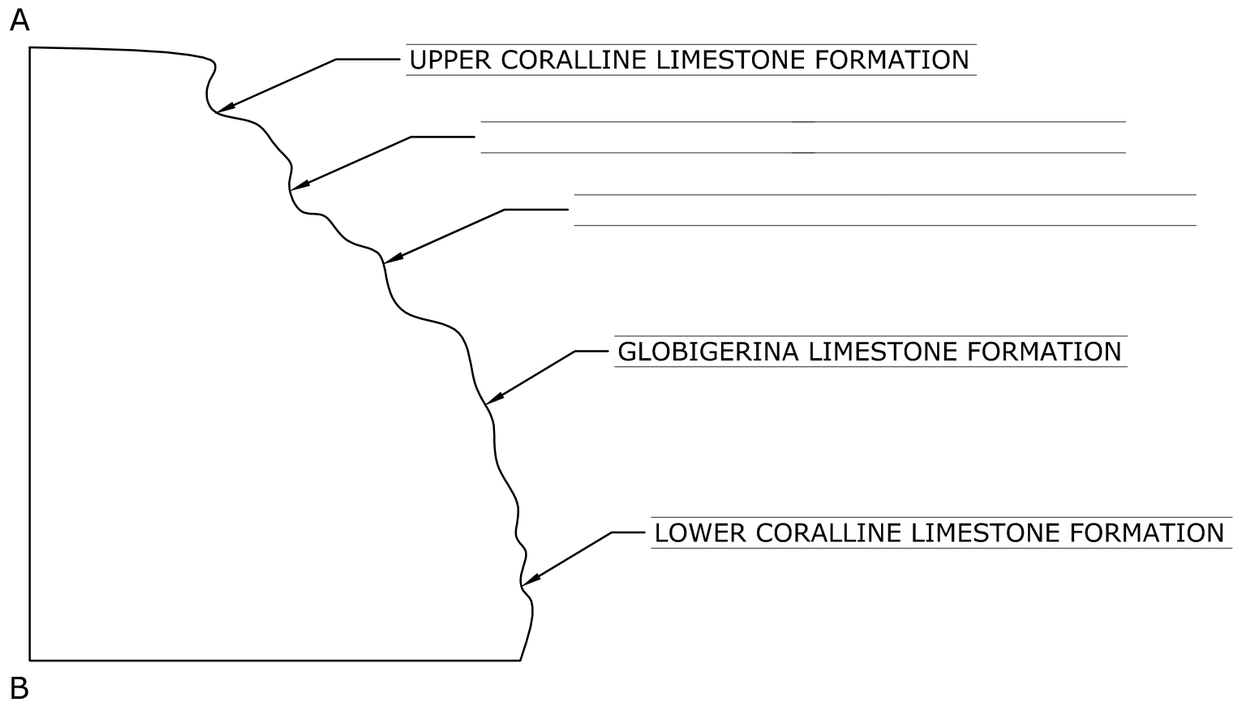
In his Geography class, Ronnie learnt that Malta is made up of different layers of rock. The drawing below represents a typical Maltese rock layer formation.

Complete the design by:

1. dividing height **A**-**B** into the ratio of 2:1:2:3:3 starting from point **A**;
2. use simple block letters to fill in the 2nd and 3rd label.

(11 marks)

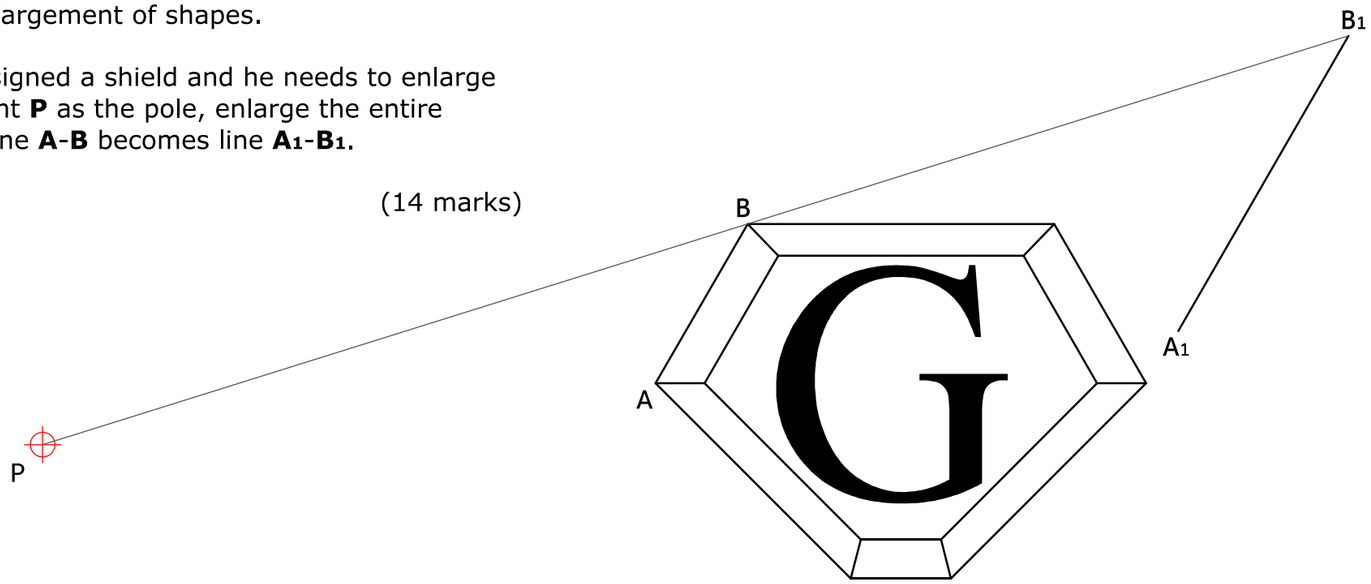




Question 3: Enlargement of shapes.

George has designed a shield and he needs to enlarge it. By using point **P** as the pole, enlarge the entire shield so that line **A**-**B** becomes line **A_1**-**B_1**.

(14 marks)



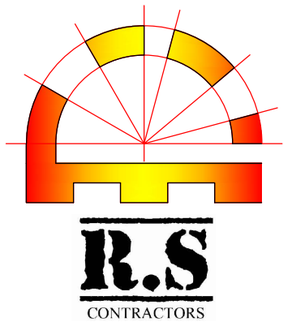
Question 4: Construction of angles.

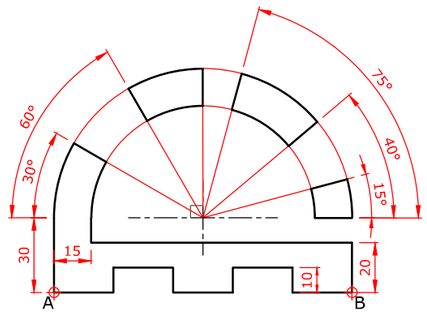
A building construction company commissioned a team of designers to design a logo. This logo is shown below. You are requested to redraw this logo using the information given:

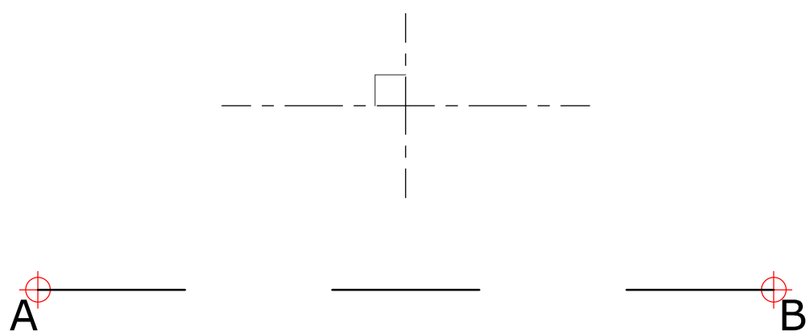
1. complete the base of the logo with the given measurements;
2. use your compasses to construct the **60°**, **30°** and **75°** angles;
3. use your protractor to mark and draw the remaining angles;
4. finish off the drawing accordingly.

Note: Do not draw the lower part of the drawing where it shows "R.S CONTRACTORS".

(14 marks)





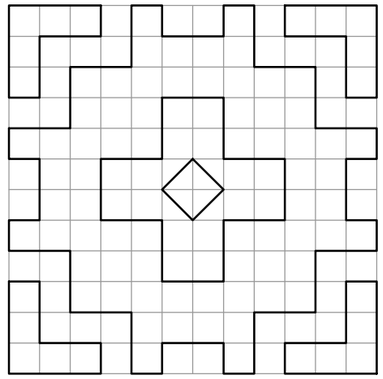


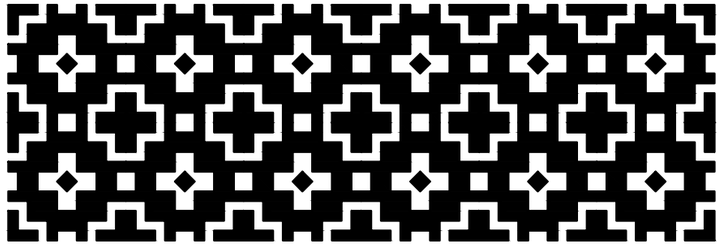
Question 5: Tessellations.

The drawing below shows the design of a single tile that will be used to cover the entire floor of a newly constructed chapel. Beside this drawing you can see the floor when a number of tiles are put together.

1. In the provided squared grid, design a new tile pattern which must be **different** to the one shown.
2. Use colour/shading to embellish your design.

(12 marks)





(Number of tiles put together)

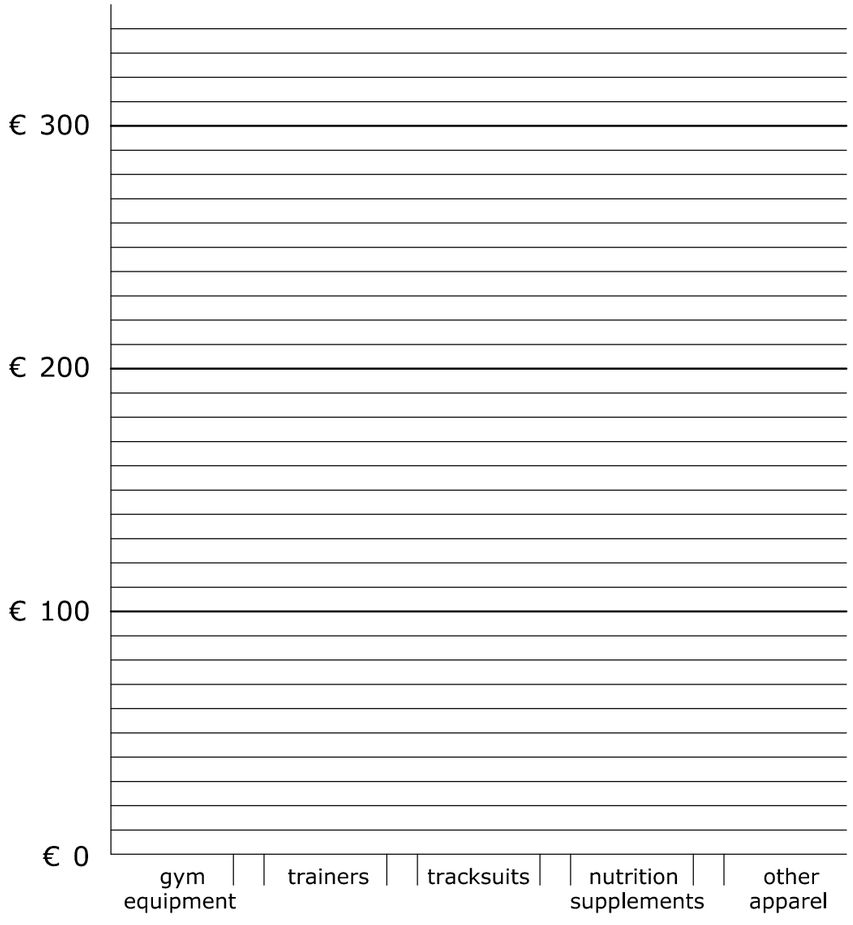
Question 6: Graphs, Charts and Pictograms.

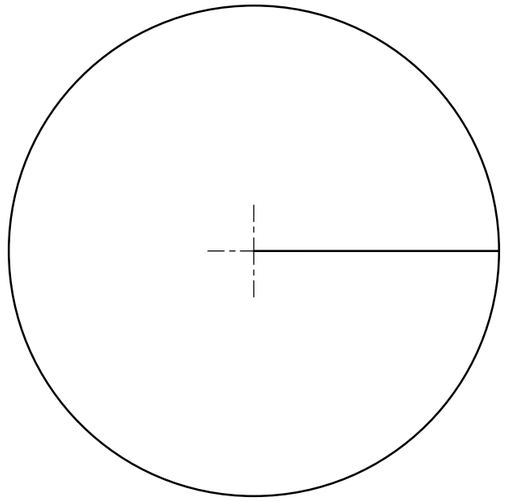
A new shop selling sports equipment has opened in town. The table below shows the items it sold and the profit generated during the first month of activity. Use the information contained in this table and:

1. add colour to the **KEY**;
2. draw a vertical Bar graph on the given starting lines below and add colour to your drawing;
3. draw a Pie Chart in the circle provided on the right and add colour to your drawing;
4. draw a pictogram for the **GYM** equipment. Use the space provided for preparatory sketches.

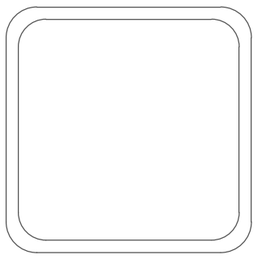
(17 marks)

KEY	ITEMS	PROFIT
	GYM EQUIPMENT	€ 270
	TRAINERS	€ 210
	TRACKSUITS	€ 120
	NUTRITION SUPPLEMENTS	€ 150
	OTHER APPAREL	€ 330





Space for preparatory sketches



GYM EQUIPMENT

TRAINERS

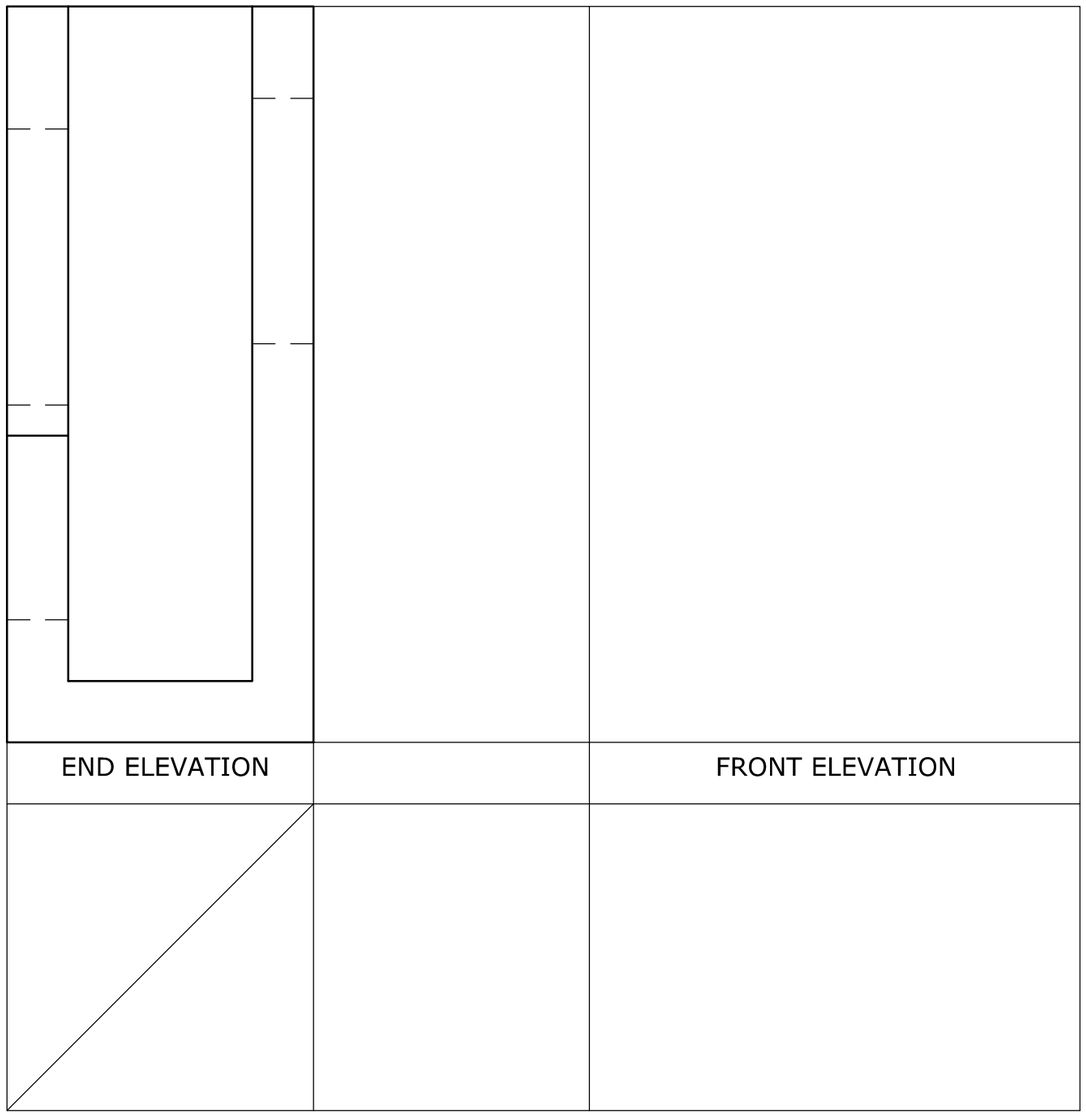
TRACKSUITS

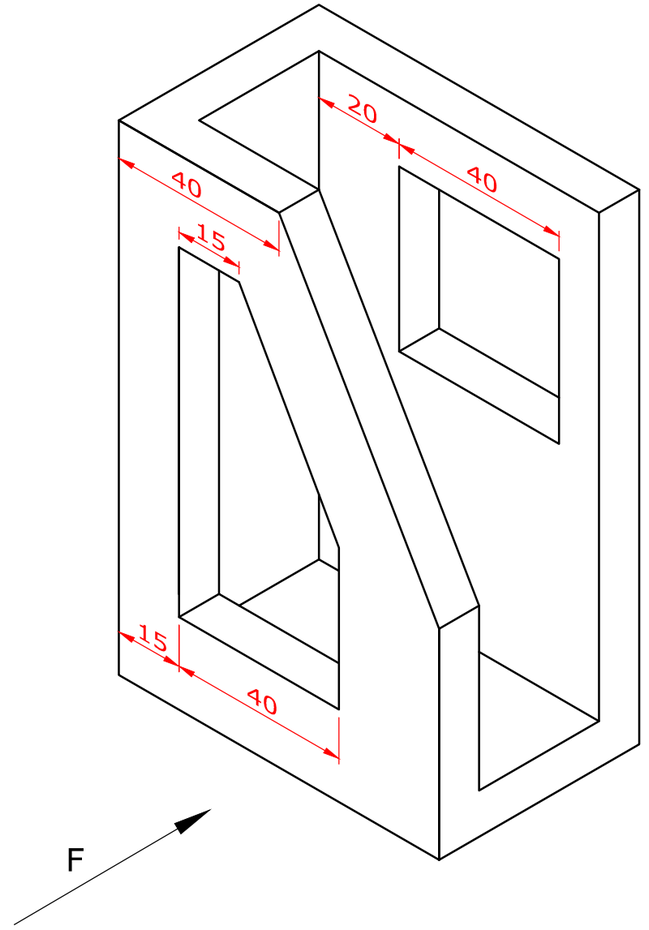
Question 7: Orthographic projection.

The Isometric drawing on the right shows a wooden file storage for paper leaflets. The **END** elevation of this file storage is given below. In the space provided:

1. complete the Orthographic projection by adding the remaining **FRONT** elevation and **PLAN** accordingly;
2. use colour to render the Isometric drawing according to its material;
3. draw the symbol of the projection used.

(18 marks)





Material thickness: 10mm

SYMBOL