



*Junior Certificate Examination 2004*

***Technical Graphics***  
***Higher Level***  
***Section A (120 marks)***

***Monday 21 June***  
***Afternoon 2:00 - 5:00***

Centre Number

***Instructions***

- (a) Answer **any ten** questions in the spaces provided.  
*All questions carry equal marks.*
- (b) Construction lines must be clearly shown.
- (c) All measurements are in millimetres.
- (d) This booklet must be handed up at the end of the examination.
- (e) Write your Examination Number in the box provided below and on all other pages used.

Question	Mark
Section A	
1	
2	
3	
4	
5	
6	
TOTAL →	
GRADE →	

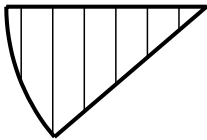
***Examination Number*** 

--

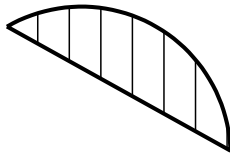
**Section A:** Answer **any ten** questions.

1. Correctly fill in the labels for each of the diagrams by selecting from the table shown.

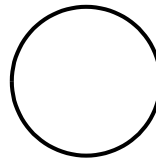
TABLE			
Arc	Circumference	Sector	Segment



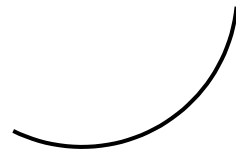
\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_



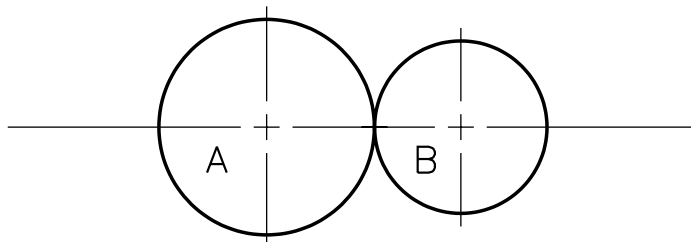
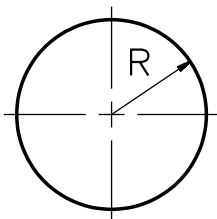
\_\_\_\_\_

2. Apply shading to the drawing of the chair shown.

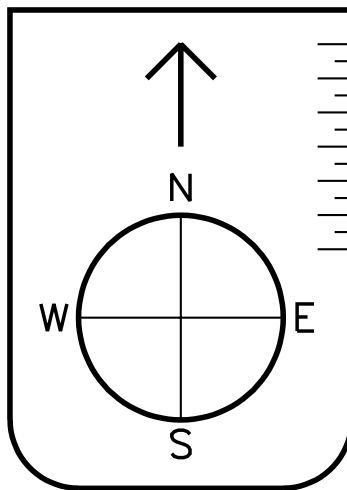


3. Draw a circle of given radius  $R$  to touch the two circles A and B.

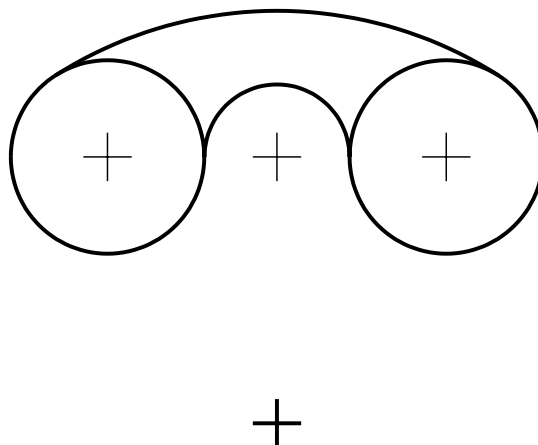
Show the necessary construction and points of contact.



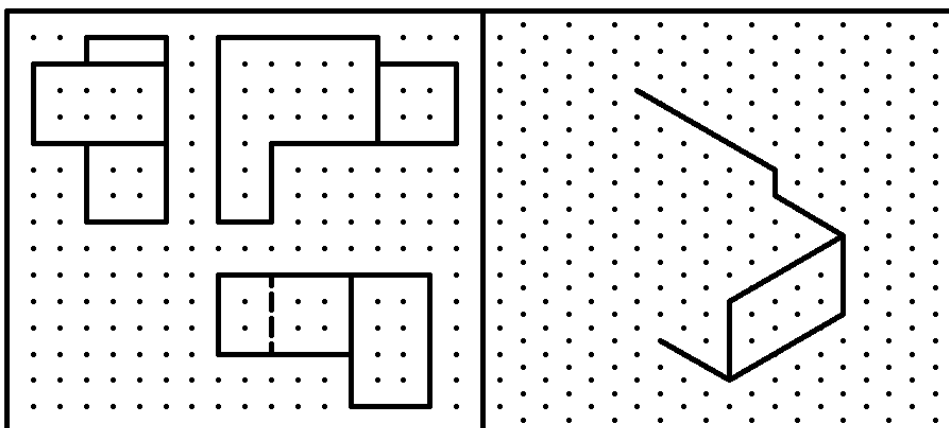
4. Indicate the bearing “North 75° West” on the compass shown.



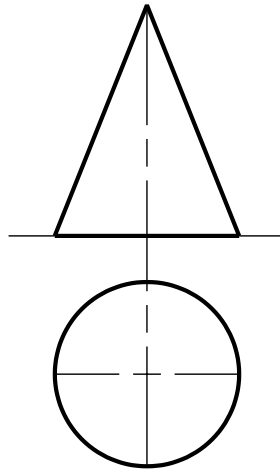
5. Identify the points of contact in the drawing of the safety goggles. Show all construction.



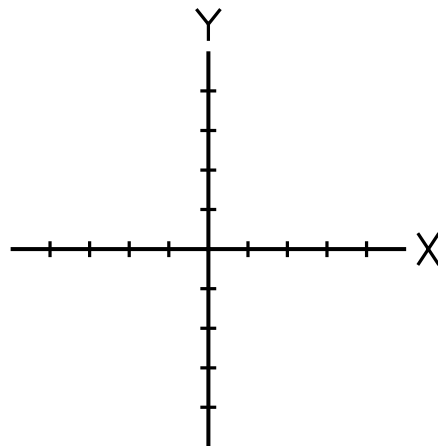
6. Shown on the square grid are three orthographic views of an object. The **incomplete pictorial sketch** of the object is shown on the isometric grid. Complete the pictorial sketch.



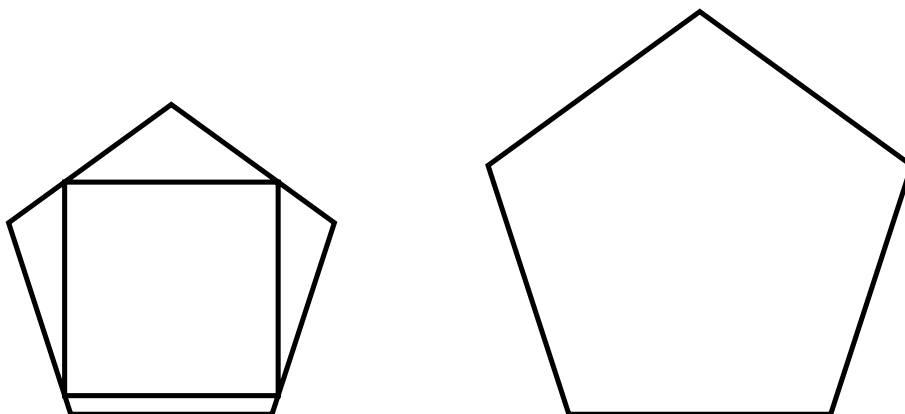
7. A ring of diameter 20 is to be dropped on to the given cone.  
Show the exact position of the ring in plan and elevation.



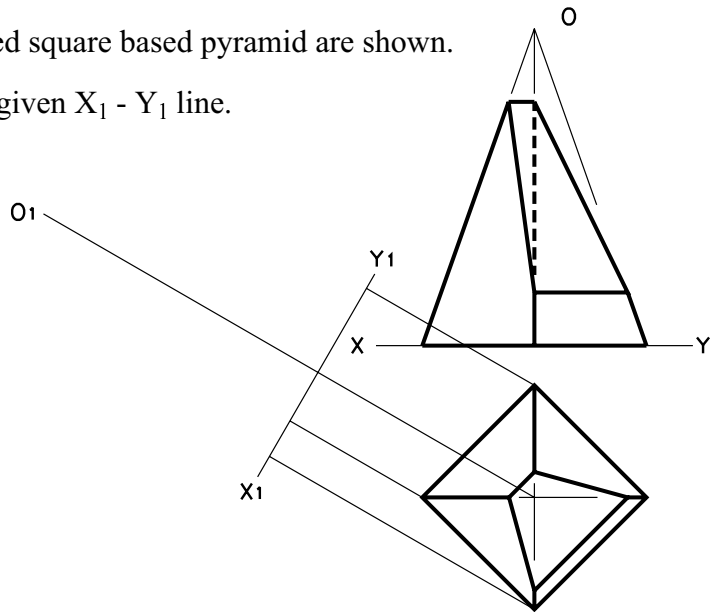
8. The axes X and Y shown below have been marked in intervals of 10 units.  
Indicate the position of the following points:- P (10,20), Q (30,-20) and R (-40,-30).



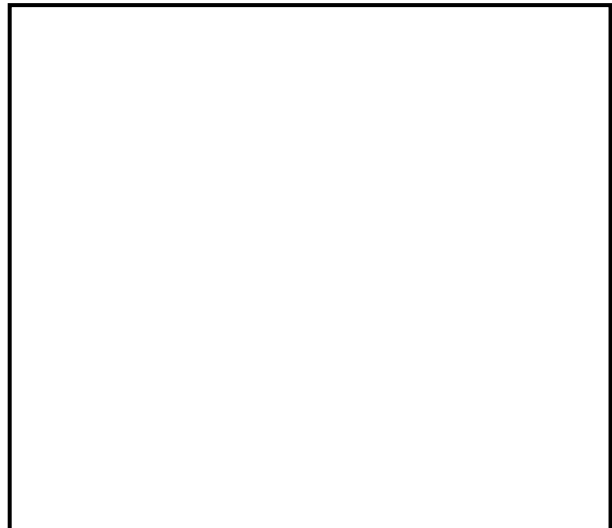
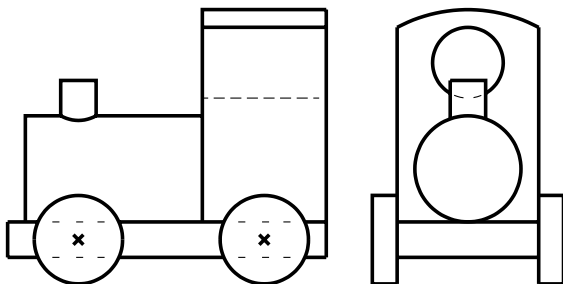
9. The figure shows two pentagons. A square is inscribed in the smaller of the two pentagons.  
Complete the figure by inscribing a square in the larger pentagon.



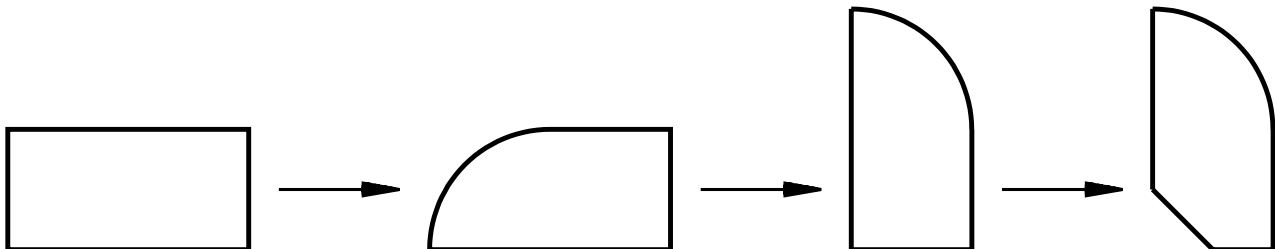
10. The plan and elevation of a truncated square based pyramid are shown.  
Draw an auxiliary elevation on the given  $X_1 - Y_1$  line.



11. The elevation and end view of a child's toy are shown.  
Make a **freehand** pictorial sketch of the child's toy in the space provided.



12. List the CAD commands used to edit the figure as shown in the sequence below.



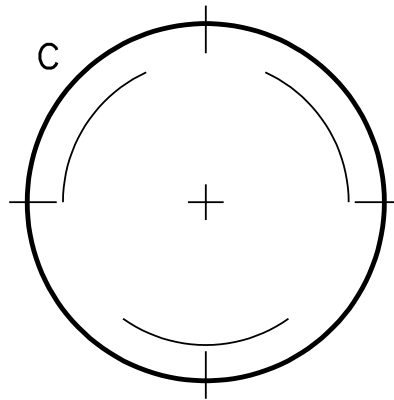
Commands used: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

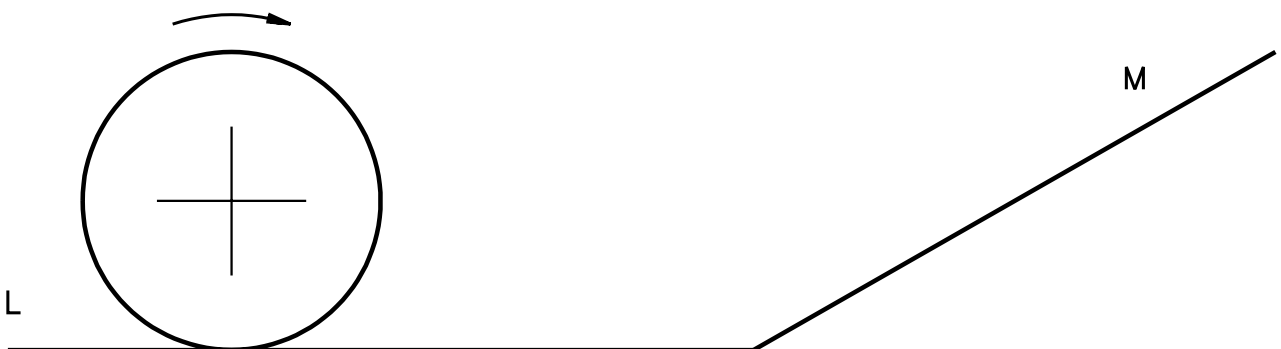
13. A logo labelled A is shown. Inscribe a similar logo in the given circle C.



14. In a survey of student pastimes, a Junior Certificate class returned the following results:-  
 Sport 40%, Music 30%, Television 20%, Reading 10%.  
 Divide the given rectangle to represent this information graphically.  
 Use shading to enhance the presentation.



15. The circle shown rolls along the line L until it touches the line M. Determine the position of the circle when it is touching both lines. Show all construction and both points of contact.



**This booklet must be handed up at the end of the examination.**