

**GAUTENG DEPARTMENT OF EDUCATION  
SENIOR CERTIFICATE EXAMINATION**

**METALWORK SG  
(First Paper: Drawings)**

**TIME: 3 hours**

**MARKS: 100**

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**INSTRUCTIONS:**

- Answer ALL questions.
  - Answer the questions in Answer book (719-2X) that is provided.
  - Write your examination number on your answer book.
  - Use your own judgement where dimensions and/or details have been omitted.
  - All projection and construction lines must be shown.
  - Marks will be deducted for poor presentation.
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**QUESTION 1**

Answer this question on Answer Sheet 1.

- 1.1 **Figure 1.1** shows the front and top views of a sectioned cone in first-angle orthographic projection. Project and draw the sectioned left view in the space provided. (5)
- 1.2 **Figure 1.2** shows the profile of a metal casting. Using the centre lines in the space provided, draw the casting to a scale of 1:1. Show all constructions. (5)
- 1.3 **Figure 1.3** shows the front and top views of a machine part in first-angle orthographic projection. Using the two views, project a left view in the space provided. (6)
- 1.4 **Figure 1.4** shows FOUR welding joints. Insert the correct welding symbols for each, on the arrows provided. (4)

**[20]**

**QUESTION 2**

Answer this question on Answer Sheet 2.

The figure on Answer Sheet 2 shows the front view and auxiliary view of a square prism with a round hole in first-angle orthographic projection. The solid prism is intersected by cutting plane **AA**.

Project a sectioned top view.  
Do not show hidden details.

**[20]**

**QUESTION 3**

Answer this question on Answer Sheet 3.

The figure on Answer Sheet 3 shows the front and top views of a machine part in first-angle orthographic projection. Do not copy the views, but draw to a scale of 1:1 an isometric view of the part. Make **A** the lowest point of the drawing.

**[20]**

**QUESTION 4**

Answer this question on Answer Sheet 4.

The figure on Answer Sheet 4 shows the front and top views of two intersecting hexagonal prisms. Draw the following:

4.1 The lines of interpenetration in the front view

(10)

4.2 The development of part **A**

(10)

**[20]**

**QUESTION 5**

Answer this question on Answer Sheet 5.

The figure shows the front and top views of a simple dwelling in first-angle orthographic projection. Produce to a scale of 1:1 a neat two-point perspective drawing of the dwelling.

NB Hidden details are not required. Do not show wall thickness.

**[20]**

**TOTAL: 100**

**END**