



Province of the  
**EASTERN CAPE**  
EDUCATION

**DIRECTORATE SENIOR CURRICULUM MANAGEMENT (SEN-FET)**

**HOME SCHOOLING SELF-STUDY WORKSHEET**

<b>SUBJECT</b>	WELDING AND METALWORK	<b>GRADE</b>	12	<b>DATE</b>	JULY 2020
<b>TOPIC</b>	MAINTENANCE & TERMINOLOGY	<b>TERM 1 REVISION</b>	()	<b>TERM 3 CONTENT</b>	(√)
<b>TIME ALLOCATION</b>	2 hrs.	<b><u>TIPS TO KEEP HEALTHY</u></b>			
<b>INSTRUCTIONS</b>	This study material focuses on two topics (Maintenance & Terminology) and is intended to assist learners in grasping various possible examination questions.	1. <b>WASH YOUR HANDS</b> thoroughly with soap and water for at least 20 seconds. Alternatively, use hand sanitizer with an alcohol content of at least 60%. 2. <b>PRACTICE SOCIAL DISTANCING</b> – keep a distance of 1m away from other people. 3. <b>PRACTISE GOOD RESPIRATORY HYGIENE:</b> cough or sneeze into your elbow or tissue and dispose of the tissue immediately after use. 4. <b>TRY NOT TO TOUCH YOUR FACE.</b> The virus can be transferred from your hands to your nose, mouth and eyes. It can then enter your body and make you sick. 5. <b>STAY AT HOME.</b>			

### **QUESTION 1 MAINTENANCE**

- 1.1 Discuss TWO reasons for locking out large machines before maintenance.
- 1.2 Why do tagging plates have multiple holes?
- 1.3 Compare the service requirements of a major and a minor service for a power-driven guillotine.
- 1.4 State TWO general maintenance guidelines for a pedestal drilling machine.
- 1.5 Mention ONE effect of overloading a punch and shearing machine.

### **QUESTION 2 MAINTENANCE**

2.1 State ONE effect of overloading on EACH of the following machines:

2.1.1 Power saw

2.1.2 Bench grinder

### **QUESTION 3 MAINTENANCE**

State ONE negative effect of friction on EACH of the following components:

3.1 Drill bit

3.2 Roller bearings of a rolling machine

### **QUESTION 4 MAINTENANCE**

State TWO general maintenance guidelines for a punch and shearing machine. Refer to the electrical switches and the condition of the electrical wiring.

### **QUESTION 5 MAINTENANCE**

Give TWO reasons for the recordkeeping of machine services.

**QUESTION 6 TERMINOLOGY (DEVELOPMENT) (SPECIFIC)**

6.1 FIGURE 1 below indicates a conical hopper.

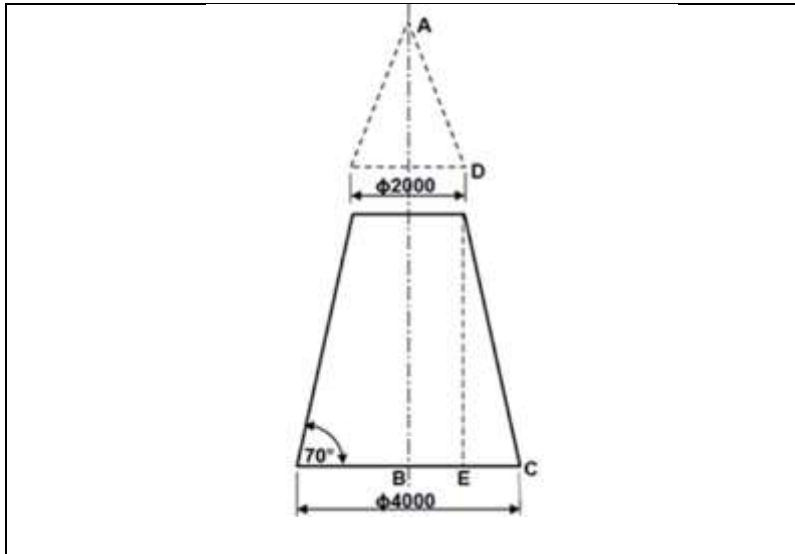


FIGURE 1

Calculate the following regarding the hopper in Figure 1 above:

6.1.1 The vertical height ( $DE$ )

6.1.2 The main radius ( $AC$ )

6.1.3 The small radius ( $AD$ )

6.1.4 The circumference

**QUESTION 7 TERMINOLOGY (DEVELOPMENT)**

FIGURE 2 below shows a square-to-round transition piece. In order to develop the transition, the true lengths must be calculated:

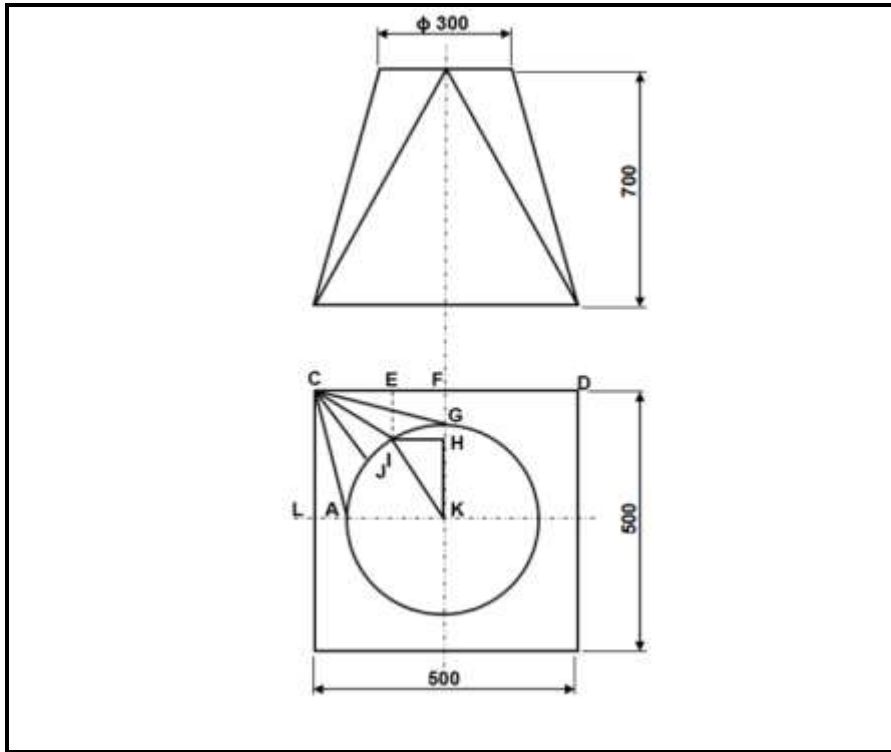


FIGURE 2

Using Figure 2 above, determine the following true lengths with the help of calculations:

7.1. 1 True length FG

7.1.2 True length CI

7.1.3 True length JI

**QUESTION 8 TERMINOLOGY (DEVELOPMENT)** FIGURE 3 below shows an off-centre rectangular to rectangular hopper.

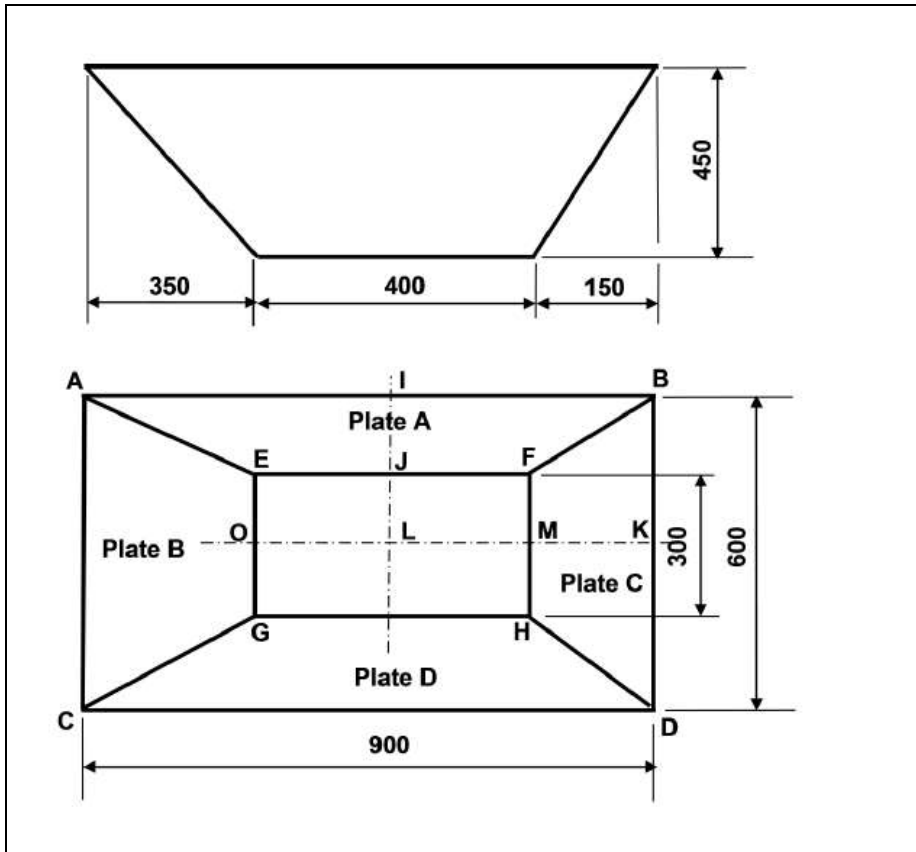


FIGURE 3

8.1 Calculate the plan length of IJ.

8.2 Calculate the true length AE on plate A.

8.3 Calculate the plan length of MK.

8.4 Calculate the true length DH on plate C.

8.5 Draw the pattern for plate A.

8.6 Draw the pattern for plate C.