



Province of the
EASTERN CAPE
EDUCATION

DIRECTORATE SENIOR CURRICULUM MANAGEMENT (SEN-FET)

HOME SCHOOLING SELF-STUDY WORKSHEET

SUBJECT	WELDING & METALWORK	GRADE	11	DATE	JULY 2020
TOPIC	TERM 1 CONTENT	TERM 1 REVISION	(√)	TERM 2 CONTENT	()
TIME ALLOCATION	1hr 30min	<p style="text-align: center;"><u>TIPS TO KEEP HEALTHY</u></p> <ol style="list-style-type: none">WASH YOUR HANDS thoroughly with soap and water for at least 20 seconds. Alternatively, use hand sanitizer with an alcohol content of at least 60%.PRACTICE SOCIAL DISTANCING – keep a distance of 1m away from other people.PRACTISE GOOD RESPIRATORY HYGIENE: cough or sneeze into your elbow or tissue and dispose of the tissue immediately after use.TRY NOT TO TOUCH YOUR FACE. The virus can be transferred from your hands to your nose, mouth and eyes. It can then enter your body and make you sick.STAY AT HOME.			
INSTRUCTIONS	<p>This study material is based on content covered in term 1:</p> <p>Show ALL calculations and units. Round off final answers to TWO decimal places.</p> <p>ALL diagrams must be drawn in pencil.</p> <p>Write neatly and legibly</p>				

QUESTION 1: OCCUPATIONAL HEALTH AND SAFETY

- 1.1 What does the regulation under the OHS Act (clause C3) refers to in terms of reporting to persons in charge of the workshop? (1)
- 1.2 Name the TWO main categories that the Occupational Health and Safety regulation can be divided into. (2)
- 1.3 After welding a joint it needs to be grinded with an angle grinder to obtain a smooth surface. State THREE safety measures to observe before switching on the angle grinder. (3)
- 1.4 Why are you only allowed to light the acetylene with a flint lighter, not with a match or cigarette lighter? (2)
- 1.5 Give THREE safety rules that must be followed while the surface grinder is in operation. (3)

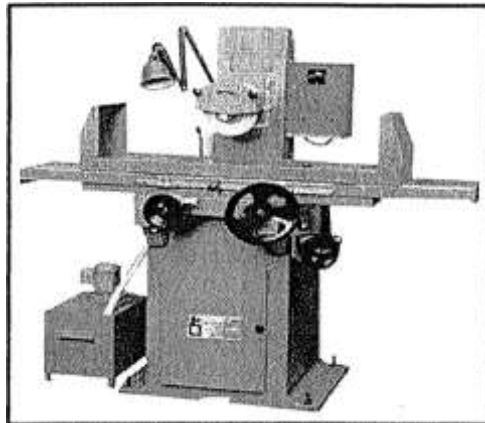


Figure 1.1

- 1.6 Give THREE reasons why it is important to wear a welding helmet during arc welding. (3)
- 1.7 Outline THREE basic rules that apply to machine guards in the workshop. (3)
- 1.8 What safety way should be adhered to when drilling a flat steel on a drill press. (1)
- 1.9 Give TWO reasons why it is important to wear surgical gloves when treating a co-learner with open wounds. (2)

QUESTION 2: TOOLS (GENERIC)

2.1 What is the use of the Guillotine?

(1)

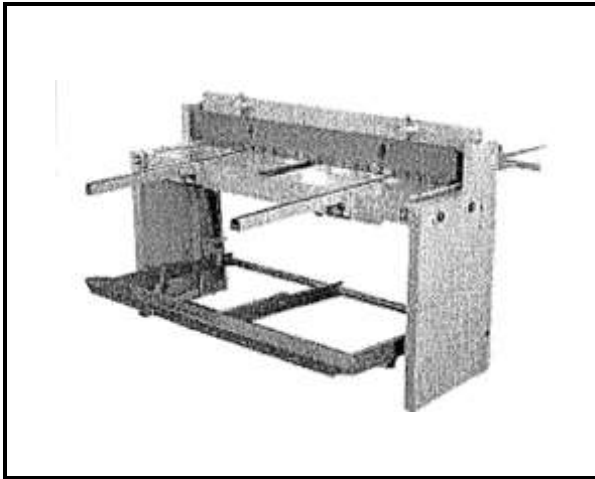


Figure 1.2

2.2 Explain the purpose of the extension bars of a guillotine. (2)

23 In a Mechanical Technology practical lesson, you discover that John had left a larger diameter morse taper shank drill bit on the drilling machine. You want to use a slightly smaller diameter morse taper shank drill bit. Show by means of sketches how you would use a taper drift to remove the drill bit from the machine spindle. (5)

2.4 A set of oxy-acetylene gas cylinders is used to supply heat during gas welding. Outline **FIVE** steps followed in the 'lighting up' procedure for an oxy-acetylene flame. (5)

2.5 Name **TWO** conditions regarding arc welding machine cables that are essential for improved efficiency. (2)

QUESTION 3: WELDING TERMINOLOGY SPECIFIC

3.1 What is a template? (2)

3.2 Name **TWO** advantages of using a template. (2)

3.3 What is a roof truss? (2)

3.4 Figure 1.3 below shows a roof truss with a span of 12 000mm and a rise of 3000mm.

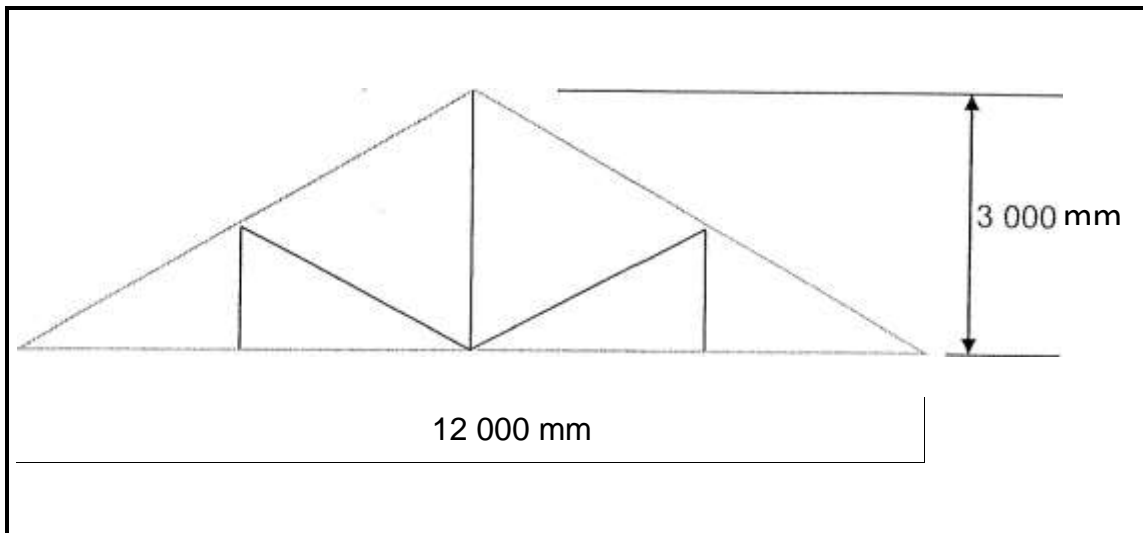


Figure 1.3

Calculate the following:

3.4.1 The pitch (2)

3.4.2 The slope (2)

3.4.3 The rafter length (2)

3.5 With the aid of sketches, identify the back mark of a 50 X 50 angle iron. (2)

(1)

3.6 Name ONE method used to reduce distortion when welding.

[15]

TOTAL 50 MARKS