

SHEET 1

PENANG SANGAM HIGH SCHOOL  
YEAR 13  
TECHNICAL DRAWING

WORKSHEET – 6

**QUESTION 1**

**Multiple Choice**

1. Which of the following equations is applicable to a two-start thread?
  - A. Lead = 1 × Pitch
  - B. Lead = 2 × Pitch
  - C. Lead = 3 × Pitch
  - D. Lead = 4 × Pitch
  
2. The locus of a point which lies outside a rolling circle that rolls inside a base circle is called
  - A. a Superior Epitrochoid.
  - B. an Inferior Epitrochoid.
  - C. a Superior Hypotrochoid.
  - D. an Inferior Hypotrochoid
  
3. In course plotting, a beam bearing is usually taken to
  - A. clear shallow waters by a certain distance.
  - B. locate the ships position by taking two bearings.
  - C. alter course by aligning the ship with two collinear points.
  - D. alter course when perpendicular to a landmark or obstacle.
  
4. The surveying and levelling tool shown below is known as
  - A. staff.
  - B. spirit.
  - C. levels.
  - D. tripod.



**QUESTION 2**

**(20 marks)**

**Problem:**

Settlements that are closed to rivers or creeks are prone to flooding during heavy rainfall.

**Brief:**

Design an overhead crossing from a suburban settlement to the main road for easy access members of the community.

**Specification:** The **crossing** must:

1. be strong, rigid and safe to use,
2. be relatively cheap to construct,
3. be creative and attractive when completed,
4. have ample space allowance for people while crossing.

**Requirements:**

- (a) Produce **two** freehand pictorial sketches of the **crossing**. **(8 marks)**
- (b) Evaluate each sketch on the following criteria:
  - (i) materials
  - (ii) functionality **(4 marks)**
- (c) Explain with the help of sketches show how each member of the structure is assembled. **(3 marks)**
- (d) Draw a pencil-rendered or a colour-rendered pictorial sketch of the final solution. **(5 marks)**

SHEET 2

<p>(a) Possible Solution 1 (4 marks)</p>	<p>Possible Solution 2 (4 marks)</p>	<p>(c) (3 marks)</p>											
		1		Overall neatness and clarity of sketch(es)		1		3		Evidence shown		1	
		2		Relevant explanations and labels given		1							
		1		Pictorial Crate/Box used		1		3		Correct labels		1	
		2		Correct line work		1		4		Correct proportion		1	
		1		Pictorial Crate/Box used		1		3		Correct labels		1	
		2		Correct line work		1		4		Correct proportion		1	
(b) Criteria	Possible Solution 1	(2 marks)		Possible Solution 2		(2 marks)		<p>(d) (5 marks)</p>					
Materials													
Functionality													
		1		Overall neatness and clarity of sketch		1		3		Correct rendering shown		1	
		2		Correct labels		1		4		Correct proportion		1	
		5		Correct line work		1							

THE END