MINISTRY OF EDUCATION, HERITAGE & ARTS

WORKSHEET 4 YEAR 13 2021

TECHNICAL DRAWING

STRAND 1: GEOMETRY

INSTRUCTIONS:

1. Use your exercise book to do all the questions given below.
2. All measurements are in millimeters except where stated otherwise
3. Show all construction lines clearly

NAME:

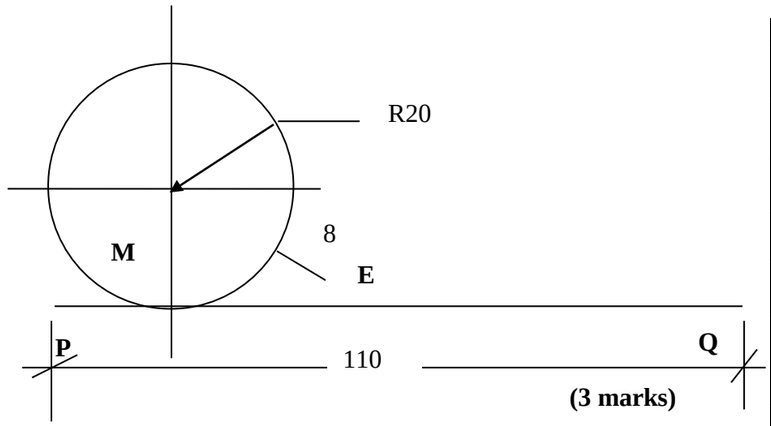
SECTION B

QUESTION 1 **(20 marks)**

PART A **(9 marks)**

Given: The rolling circle M arm E and base line PQ.

Required: Plot the locus of point E on the arm attached to the circle M, as it rolls clockwise direction along the base line PQ for half a turn **(8 marks)**
Name the curve formed: _____ **(1 mark)**

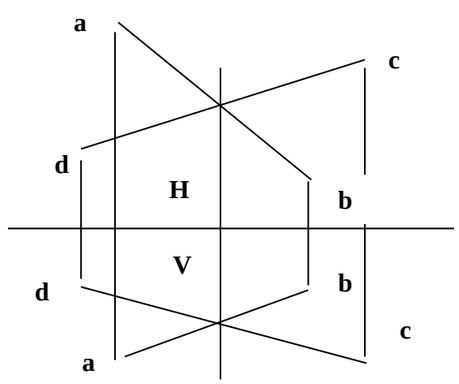


BQ1A			
1	Correct division of circle	1	
2	Correct divisions on rolling circle and labels shown	2	
3	Correct generating lines or method	2	
4	Accuracy of C_1 to C_6 locations	1	
5	Accuracy of P_1 to P_6 locations	1	
6	Correct shape of locus	1	
7	Correct name of the curve	1	
BQ1B			
8	Correct calculation	4	
8	Correct position of centroid	4	
BQ4C			
9	Correct method	1	
10	Correct 12 divisions	1	
11	Accuracy	1	

PART C **(3 marks)**

Given: A skew line ab and cd in 3rd angle orthographic projection

Required: Find the shortest distance between the two lines.



Note: You may use your own measurements

PART A **(8 marks)**

Given: A composite block.

Required: Find the Centroid using Funicular or Link polygon. **(8 marks)**