

QUESTION 4: MECHANICAL ASSEMBLY

Given:

- The exploded isometric drawing of the parts of a pipe clamp assembly, showing the position of each part relative to all the others
- Orthographic views of each of the parts of the pipe clamp assembly

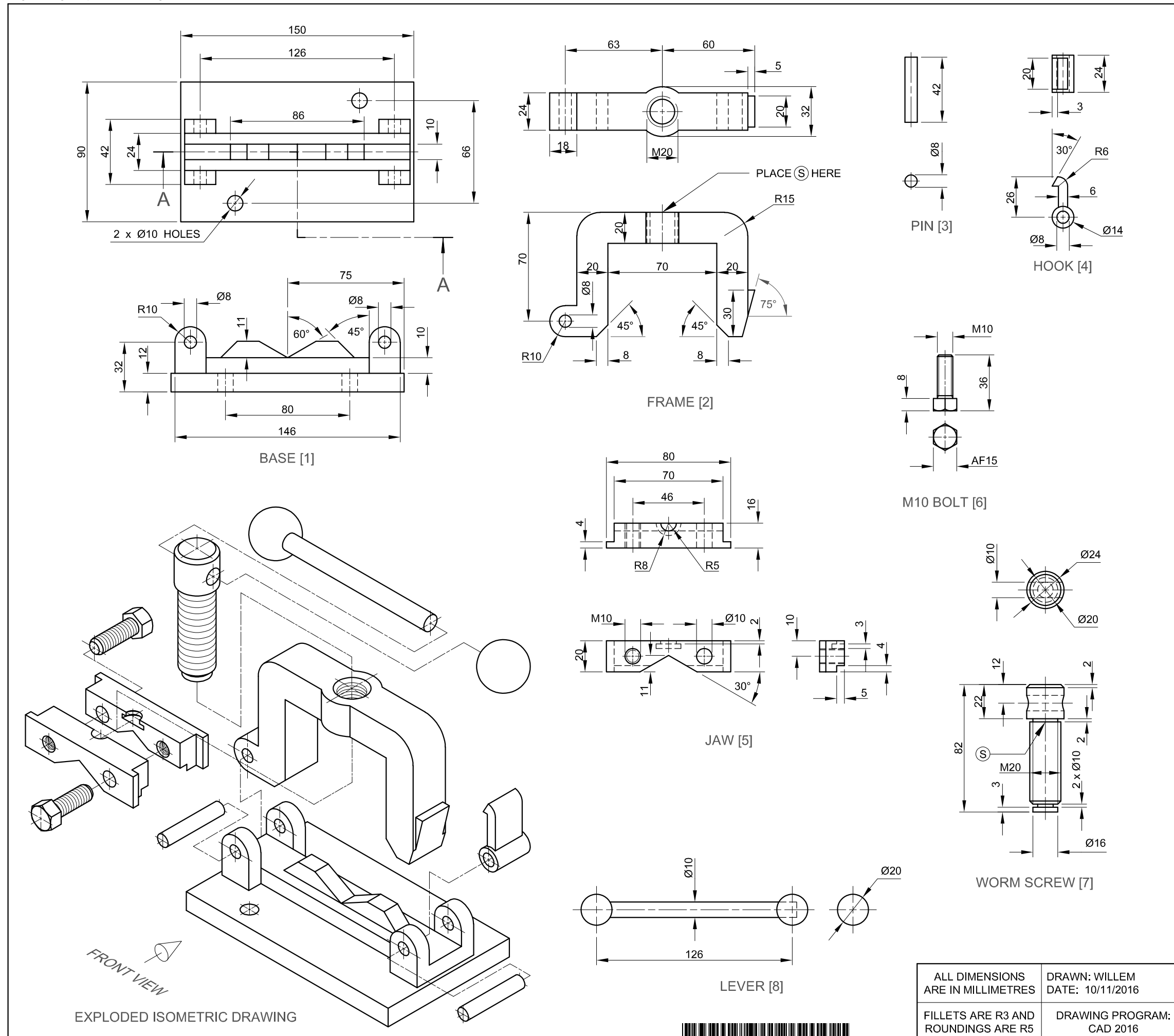
Instructions:

- Answer this question on page 6.
- Draw, to scale 1 : 1 and in third-angle orthographic projection, the following views of the assembled parts of the pipe clamp assembly:
 - 4.1 A half-sectional front view** on cutting plane A-A. Show the left side in section, as seen from the direction of the arrow shown on the exploded isometric drawing. The cutting plane is shown on the top view of the base (part 1).
 - 4.2 The top view**

NOTE:

- Planning is essential.
- ALL drawings must comply with the guidelines as contained in the *SANS 10111*.
- The convention of symmetry may not be applied.
- The worm screw (part 7) must be completely screwed into the frame (part 2) so that point S will be at the indicated position.
- The lever (part 8) must be placed in the centre of the worm screw (part 7).
- In the top view, draw only the right-side M10 bolt. Show TWO faces of the bolt.
- Add cutting plane A-A.
- NO hidden detail is required.

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PARTS LIST			
PART	QUANTITY	MATERIAL	
1	BASE	1	CAST IRON
2	FRAME	1	MILD STEEL
3	PIN	2	MILD STEEL
4	HOOK	1	MILD STEEL
5	JAW	2	TOOL STEEL
6	M10 BOLT	2	TOOL STEEL
7	WORM SCREW	1	HARDENED STEEL
8	LEVER	1	HARDENED STEEL

ALL DIMENSIONS ARE IN MILLIMETRES FILLETS ARE R3 AND ROUNDINGS ARE R5		DRAWN: WILLEM DATE: 10/11/2016 DRAWING PROGRAM: CAD 2016		WR PROJECTS 8 VON WHEILIG STREET ALIES PARK 1791 www.sn_king.co.za ☎ 069 313 1574	
TITLE			PIPE CLAMP		





FOR OFFICIAL USE ONLY	
INCORRECT ORTHOGRAPHIC PROJECTION	
INCORRECT OVERALL SCALE	
INCORRECT HATCHING	
PARTS NOT ASSEMBLED	
TOTAL PENALTIES (-)	

ASSESSMENT CRITERIA					
TOP VIEW					
		POSSIBLE	OBTAINED	SIGN	MODERATED
1	BASE	8			
2	FRAME	5			
3	HOOK	5			
4	JAW + M10 BOLT	6½			
5	WORM SCREW + LEVER	4			
SUBTOTAL		28½			
SECTIONAL FRONT VIEW					
1	BASE	9½			
2	FRAME	8			
3	PINS + HOOK	3½			
4	JAW + M10 BOLT	9½			
5	WORM SCREW	9½			
6	LEVER	3			
SUBTOTAL		43			
GENERAL					
1	CENTRE LINES	10½			
2	ASSEMBLY	9			
3	CUTTING PLANE	5			
SUBTOTAL		24½			
TOTAL		96			
PENALTIES (-)					
GRAND TOTAL					
EXAMINATION NUMBER					
EXAMINATION NUMBER					
6					

