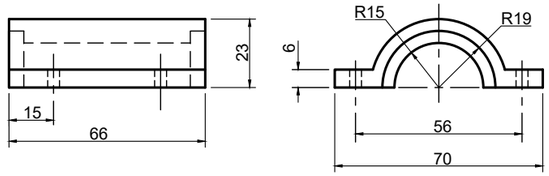
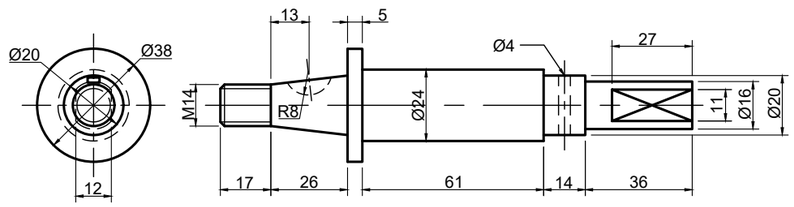
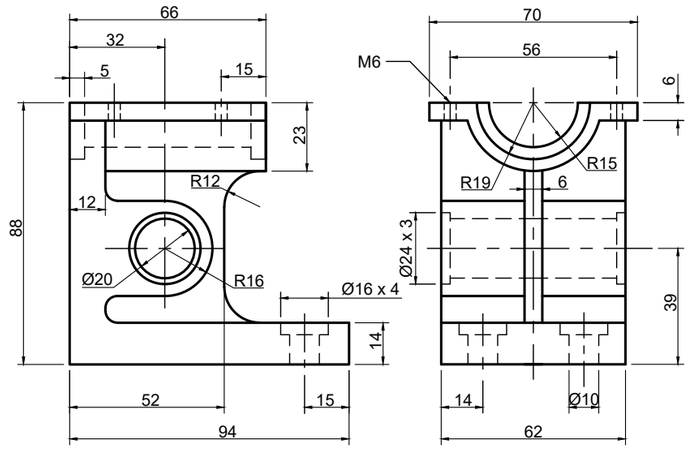
STAPEL



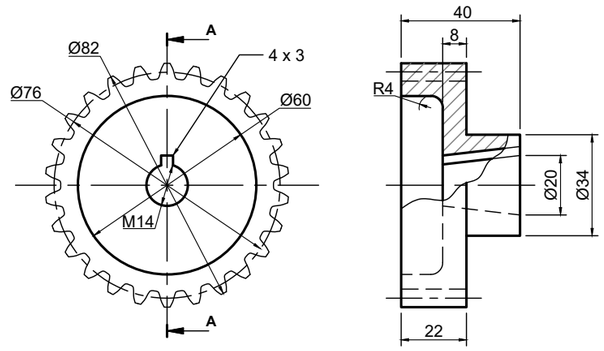
BEARING CUP



SPINDLE



STAND



SPUR

QUESTION 4: MECHANICAL ASSEMBLY

GIVEN:

- The exploded isometric drawing of parts of an gear sub-assembly, showing the position of each part relative to all the others
- Orthographic views of each of the parts of the gear sub-assembly

INSTRUCTIONS:

- Answer this question on page 5 (page 6).
- Draw, to scale 1:1 and in third-angle orthographic projection, the following views of the assembled parts of the gear sub-assembly:

1. The sectional front view as seen from the direction of the arrow shown on the exploded isometric drawing. The cutting plane, which passes vertically through the gear sub-assembly, is shown on the front view of the spur.
2. A right-view. No hidden detail is required.

NOTE:

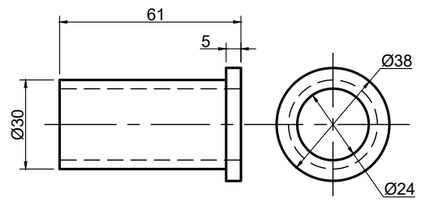
- Planning and positioning of the drawing is essential.
- The drawing must comply with the guidelines as contained in the SANS 10111.
- Show three faces of the M14 nut in the front view.
- Show all deviations on the spindle where the key is imbedded into the spindle as well as where the pin penetrate the spindle with part sections.
- No hidden detail is required.

The following must be added on the drawing:

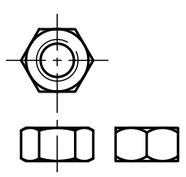
- The section plane. Name the section plane A-A.
- The projection symbol for the system used.
- Print the title and scale :

GEAR SUB-ASSEMBLY
SCALE 1:1

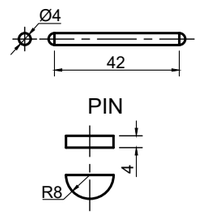
[82]



BUSH

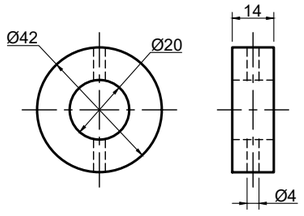


M14 NUT

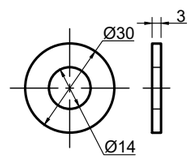


PIN

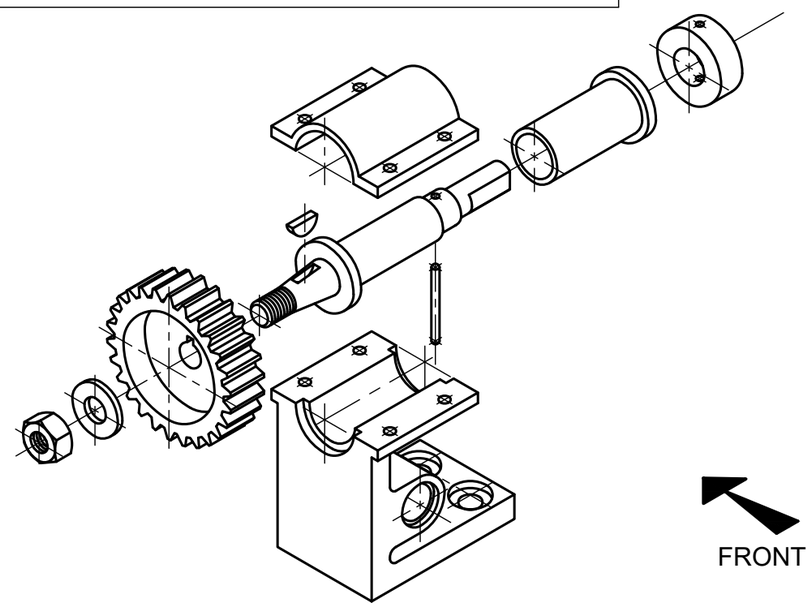
KEY



COLLAR



WASHER



FRONT VIEW

PARTS LIST	
ITEM	DESCRIPTION
1	STAND
2	BEARING CAP
3	SPINDLE
4	BUSH
5	COLLAR
6	PIN
7	KEY
8	SPUR
9	WASTER
10	M14 NUT

DIAGRAM SHEET 1	ENGINEERING GRAPHICS AND DESIGN	ESTIMATED TIME TO FINISH 45 min	NAME & SURNAME		GRADE	12 33

Please turn page over for next question

STAPEL

ASSESSMENT CRITERIA				
SECTIONAL FRONT VIEW				
1	STAND ($\frac{20}{2}$)	10		
2	BEARING CAP ($\frac{3}{2}$)	1.5		
3	SPINDLE ($\frac{29}{2}$)	14.5		
4	BUSH ($\frac{6}{2}$)	3		
5	COLLAR ($\frac{14}{2}$)	7		
6	PIN ($\frac{4}{2}$)	2		
7	KEY ($\frac{2}{2}$)	1		
8	SPUR ($\frac{16}{2}$)	8		
9	WASHER ($\frac{3}{2}$)	1.5		
10	M14 NUT ($\frac{10}{2}$)	5		
	SUB TOTAL 1	53.5		
RIGHT VIEW				
1	STAND ($\frac{17}{2}$)	8.5		
2	BEARING CAP ($\frac{5}{2}$)	2.5		
3	SPINDLE ($\frac{5}{2}$)	2.5		
4	COLLAR ($\frac{1}{2}$)	0.5		
5	PIN ($\frac{2}{2}$)	1		
6	SPUR ($\frac{2}{2}$)	1		
	SUB TOTAL 2	16		
TECHNICAL COMPLIANCY				
1	TITLE & SCALE	2		
2	PROJ. SYMBOL	3		
3	LABEL SECTION	1		
4	SECTION LINE ($\frac{6}{2}$)	3		
	CENTER LINES	3.5		
	SUB TOTAL 3	12.5		
	PENALTIES			
	GRAND TOTAL	82		

TITLE & SCALE	PROJECTION SYMBOL
	—— - —— - ——

DIAGRAM SHEET 2	ENGINEERING GRAPHICS AND DESIGN	ESTIMATED TIME TO FINISH 45 min	NAME & SURNAME		GRADE 12	34