

SA's Leading Past Year

Exam Paper Portal



You have Downloaded, yet Another Great Resource to assist you with your Studies 😊

Thank You for Supporting SA Exam Papers

Your Leading Past Year Exam Paper Resource Portal

Visit us @ www.saexampapers.co.za





JUNE EXAMINATION

GRADE 12

2026

ENGINEERING GRAPHICS AND DESIGN

PAPER 2

TIME: 2 $\frac{1}{2}$ hours

MARKS: 100

5 Pages

ENGINEERING GRAPHICS & DESIGN P2



C2772E

X05



INSTRUCTIONS AND INFORMATION

1. This question paper consists of THREE questions.
2. Answer ALL the questions.
3. ALL drawings are in third-angle orthographic projection, unless otherwise stated.
4. ALL drawings must be prepared using pencil and instruments, unless otherwise stated.
5. ALL answers must be drawn accurately and neatly.
6. ALL the questions must be answered on the QUESTION PAPER, as instructed.
7. ALL the pages, irrespective of whether the question was attempted or not, must be re-stapled in numerical sequence in the TOP LEFT-HAND CORNER ONLY.
8. Time management is essential in order to complete all the questions.
9. Print your surname and name in the given block provided on every page.
10. Any details or dimensions not given must be assumed in good proportion.

FOR OFFICIAL USE ONLY											
QUESTION	MARKS OBTAINED	$\frac{1}{2}$	SIGN	MODERATED	$\frac{1}{2}$	SIGN	RE-MARKING	$\frac{1}{2}$	SIGN		
1											
2											
3											
TOTAL											
	1	6	0		1	6	0		1	6	0

FINAL CONVERTED MARK	CHECKED BY
100	

COMPLETE THE FOLLOWING:

SCHOOL'S NAME

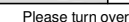
SCHOOL'S NAME

SURNAME AND NAME

SURNAME AND NAME

DO NOT FOLD THE QUESTION PAPER IN HALF.

Please turn over





QUESTION 2: ISOMETRIC DRAWING

Given:

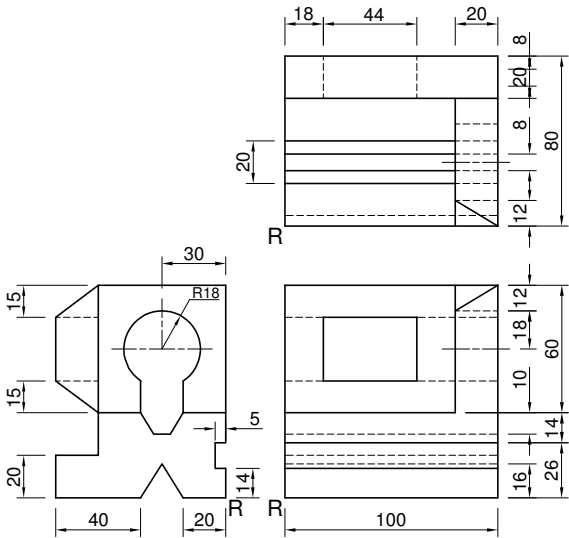
- The front view, top view and left view of a slider
- The position of point R on the drawing sheet

Instructions:

Convert the given orthographic views of this slider and draw a neat isometric drawing to a scale of 1 : 1.

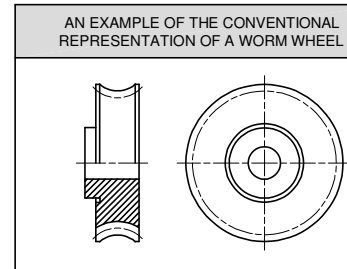
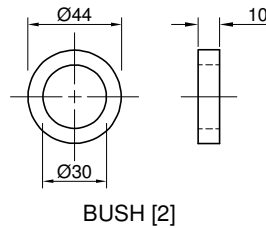
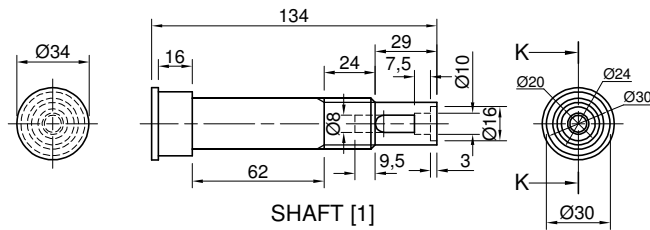
- Use point R as the lowest point and starting point for this drawing.
- Show ALL necessary circles and other construction.
- NO hidden detail is required.

[38]



↓
R

ASSESSMENT CRITERIA				
1	AUX. VIEW AND PLACING	2		
2	BASE	17		
3	LEFT SIDE	6 1/2		
4	RIGHT SIDE	5 1/2		
5	ISOMETRIC CIRCLES AND CENTRE LINES	7		
PENALTIES (-)				
TOTAL		38		
SURNAME AND NAME				
SURNAME AND NAME				3

**QUESTION 3: MECHANICAL ASSEMBLY****Given:**

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

Instructions:

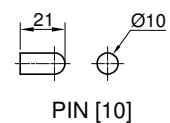
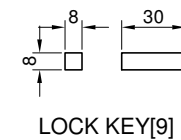
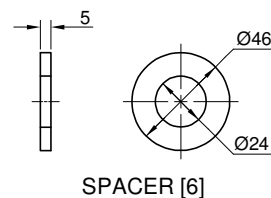
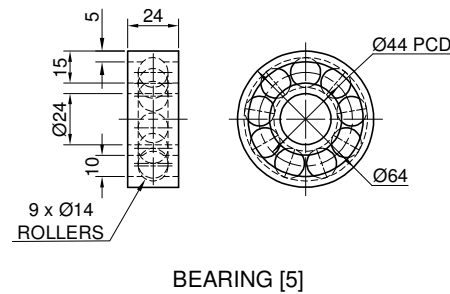
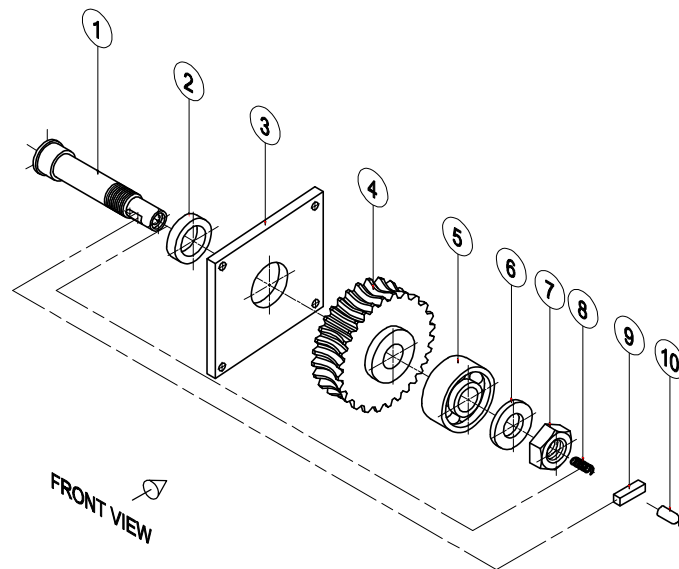
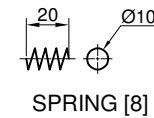
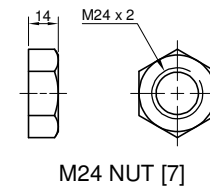
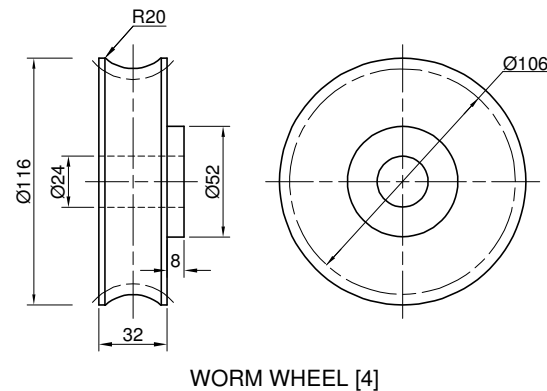
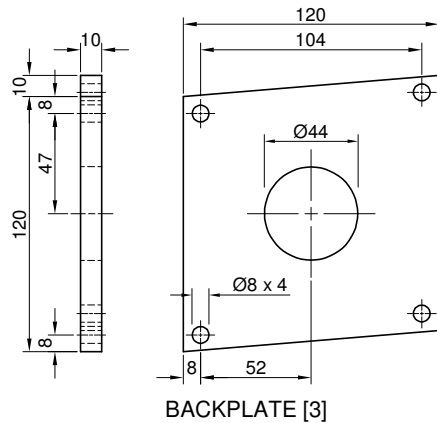
- Answer this question on page 5.
- Draw, to scale 1 : 1 and in third-angle orthographic projection, the following views of the assembled parts of the pulley assembly:

3.1 A sectional front view on cutting plane K-K, as seen from the direction of the arrow in the exploded isometric drawing. The cutting plane is shown on the right view of the shaft (part 1).

3.2 A right view.

NOTE:

- Planning is essential.
- The drawing must comply with the *SANS 10111* guidelines.
- Show THREE faces of the M24 nut (part 1) on the sectional view.
- Do not use the rule of symmetry in the answer.
- ONLY the spring (part 8) must be drawn in convention and in neat freehand.
- The shaft does not have to be partially sectioned to show the pin detail.
- NO hidden detail is required.

[92]**PARTS LIST**

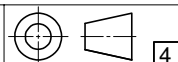
PARTS	QUANTITY	MATERIAL
1. SHAFT	1	MILD STEEL
2. BUSH	1	BRASS
3. BACKPLATE	1	PLASTIC
4. WORM WHEEL	1	STAINLESS STEEL
5. BEARING	1	TOOL STEEL
6. SPACER	1	MILD STEEL
7. M24 NUT	1	TOOL STEEL
8. SPRING	1	SPRINGSTEEL
9. LOCK KEY	1	HARDENED STEEL
10. PIN	1	HARDENED STEEL

SENTRI
PROJECTS CC

88 PROJECT STREET
LANDPARK
9876
www.sentriprojects.com
098 765 4321

DRIVE SHAFT ASSEMBLY

ALL DIMENSIONS ARE IN MILLIMETRES
ALL UNSPECIFIED RADII ARE R4





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

ASSESSMENT CRITERIA					
RIGHT VIEW					
		POSSIBLE	OBTAINED	SIGN	MODERATED
1	BACKPLATE + WORM WHEEL	6			
2	BEARING + SPACER	11			
3	M24 NUT	2 $\frac{1}{2}$			
3	SHAFT + PIN + LOCK KEY	6			
SUBTOTAL		25 $\frac{1}{2}$			
HALF SECTION FRONT VIEW					
1	BACK PLATE	5			
2	BUSH	2			
3	SHAFT	12 $\frac{1}{2}$			
4	WORM WHEEL	9			
5	BEARING	9 $\frac{1}{2}$			
6	M24 NUT + WASHER	5 $\frac{1}{2}$			
7	KEY + SPRING	1 $\frac{1}{2}$			
8	PIN	1 $\frac{1}{2}$			
SUBTOTAL		46 $\frac{1}{2}$			
GENERAL					
1	CENTRE LINES	4			
2	ASSEMBLY	9			
3	SECTION P-P	7			
SUBTOTAL		20			
TOTAL		92			
PENALTIES (-)					
GRAND TOTAL					
SURNAME AND NAME					
SURNAME AND NAME					5