higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE (VOCATIONAL)

DRAWING OFFICE PROCEDURES AND TECHNIQUES

(Second paper)

NQF LEVEL 4

22 November 2022

This marking guideline consists of 7 pages.

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QUESTION 1: 3D MODELING WORKSPACE

1.1
- Cartesian coordinates, are also called **rectangular coordinates**, √
- Cartesian coordinates provide a method of **rendering graphs** √
- and indicating the **position of points** √
- on a **2D surface or in 3D space**. √ (4)

1.2
- Primitives are **three-dimensional geometric shapes** √
- that are the building blocks for **creating complex geometric objects**. √ (2)

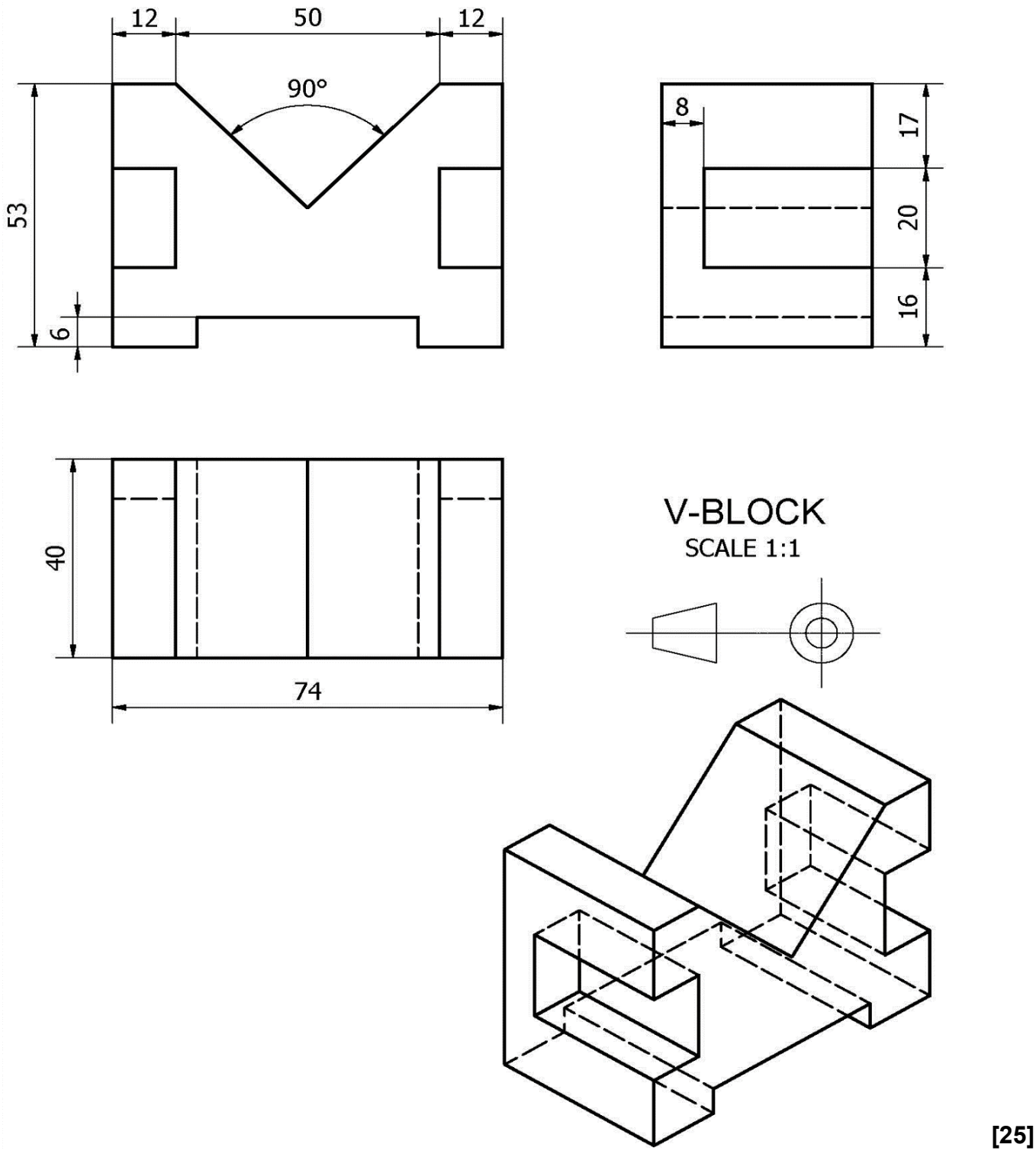
1.3
- Standard √
- Draw √
- Modify √
- Layers √
- Properties √
- Styles √
- Draw order √
- Command √ (Any 4 × 1) (4)

1.4
- The most common methods for navigating around a 3D model are with a mouse and keyboard. √
- Press the Shift key and middle mouse button whilst moving the mouse to orbit the model. √
- The cursor changes to an orbit icon indicating orbit mode. √ (3)

1.5
- The navigation bar is a user interface element where one can access both unified and product-specific navigation tools. √
- The navigation bar floats over and along one of the sides of the current drawing area. √ (2)

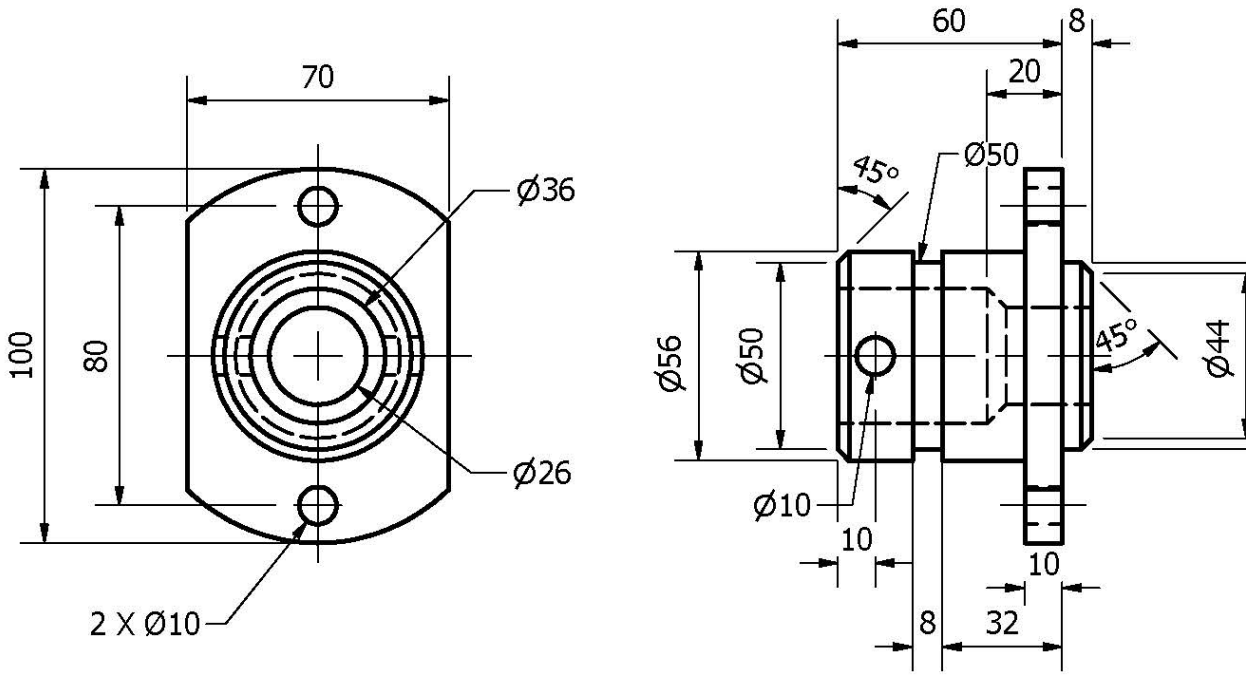
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QUESTION 2: 3D FUNCTIONS AND TOOLS



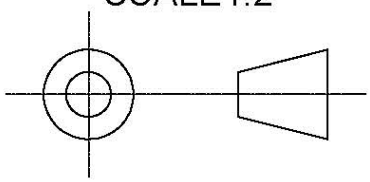
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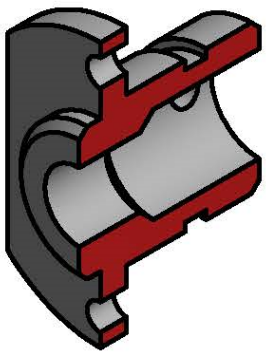
QUESTION 3: SECTION A MODEL AND CREATE DRAWINGS



CLUTCH COMPONENT

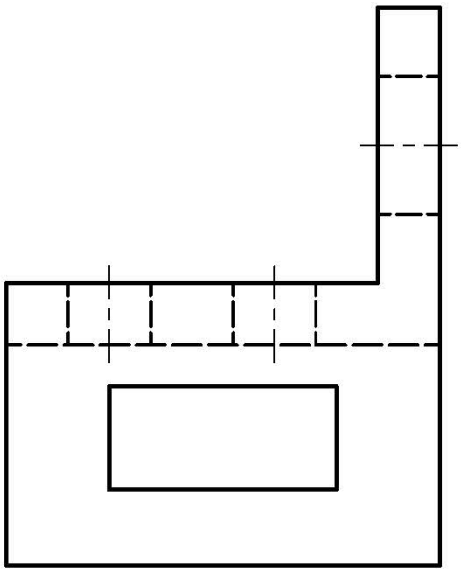
SCALE1:2

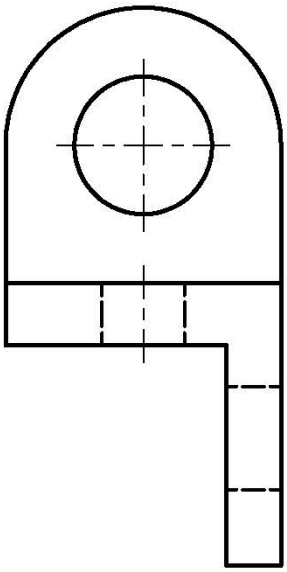


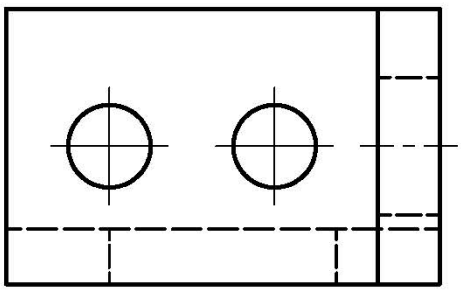


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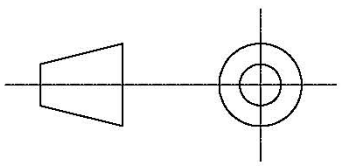
QUESTION 4: APPLY VISUALISATION TOOLS TO ENHANCE 3D DRAWINGS

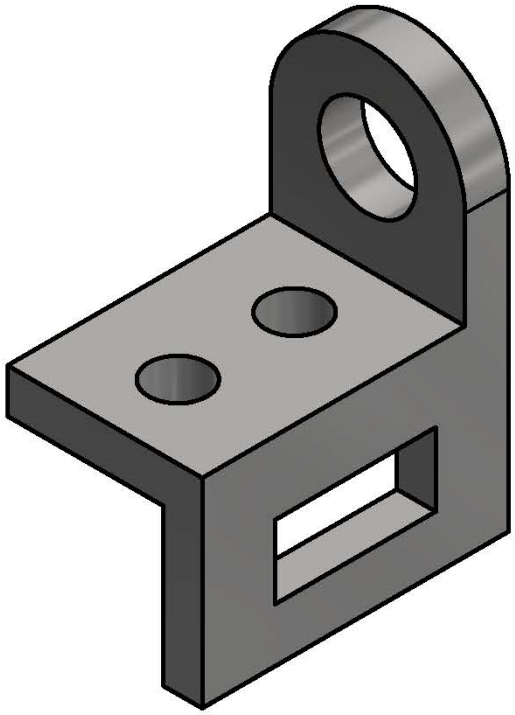






SUPPORT PLATE
SCALE 1:1





[30]

QUESTION 2: 3D FUNCTIONS AND TOOLS

QUESTION 2	2.1	2.2	2.3	2.4	2.5	
Correctness and layout Front view	3					
Correctness and layout Left view	3					
Correctness and layout Top view	3					
Linework and neatness	1					
Scale 1:2	2					
3D drawing		7				
Dimensions			2			
Title bar with information				2		
Correct plot					2	
TOTAL	**12**	**7**	**2**	**2**	**2**	**[25]**

QUESTION 3: SECTION A MODULE AND CREAT DRAWINGS

QUESTION 3	3.1	3.2	3.3	3.4	3.5	3.6	
Correctness and layout Front view	3						
Correctness and layout Left view	4						
Linework and neatness	1						
Scale 1:2	2						
Rendering: Section		10					
Dimensions			5				
Title bar with information				2			
Correct plot					2		
Orthographic projection symbol						1	
TOTAL:	**10**	**10**	**5**	**2**	**2**	**1**	**[30]**

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QUESTION 4: APPLY VISUALISATION TOOLS TO ENHANCE 3D DRAWINGS

QUESTION 4	**4.1.1**	**4.1.2**	**4.1.3**	**4.2**	**4.3**	**4.4**	**4.5**	
Correctness and layout Front view	3							
Correctness and layout Left view		3						
Correctness and layout Top view			3					
Linework and neatness	1	1	1					
3D model				6				
Lighting and materials Rendering					8			
Title bar with information						2		
Correct plot							2	
TOTAL:	**4**	**4**	**4**	**6**	**8**	**2**	**2**	**[30]**

TOTAL: 100

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