higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE

PLATING AND STRUCTURAL STEEL DRAWING N4

28 November 2022

This marking guideline consists of 12 pages.

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MARKSHEET

QUESTION 1: TWO-POINT CONICAL NOZZLE

Front view	(3)
Line of penetration in the front view	(2)
Pattern of point 'A' of the nozzle	(9)
Pattern of the pipe	(7)
Accuracy	(1)
Linework and projections	(2)
Neatness	(1)
	[25]

QUESTION 2: RECTANGLE-TO-SQUARE TRANSFORMER

Front view (Not to scale)	(1)
Top view (Not to scale)	(1)
Calculations	(15)
Pattern of the transformer	(6)
Accuracy	(1)
Neatness	(1)
	[25]

QUESTION 3: OFF-CENTRE CONNECTION

Front view without penetration line	(2)
Top view	(3)
Line of penetration in the front view	(4)
Auxiliary view of branch piece	(5)
Pattern of the branch pipe	(7)
Accuracy	(1)
Linework and projections	(2)
Neatness	(1)
	[25]

QUESTION 4: STRAIGHT-BACK JUNCTION PIECE

Front view	(3)
Top view	(5)
Half pattern of junction piece	(13)
Accuracy	(1)
Linework and projections	(2)
Neatness	(1)
	[25]

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QUESTION 5: OBLIQUE CONICAL CONNECTION

Front view without the interpenetration line	(3)
Top view without the interpenetration line	(3)
The interpenetration line in the full top view	(3)
The interpenetration line in the front view	(3)
Pattern of the oblique cone	(9)
Accuracy	(1)
Linework and projections	(2)
Neatness	(1)
	[25]

TOTAL: 100

QUESTION 1

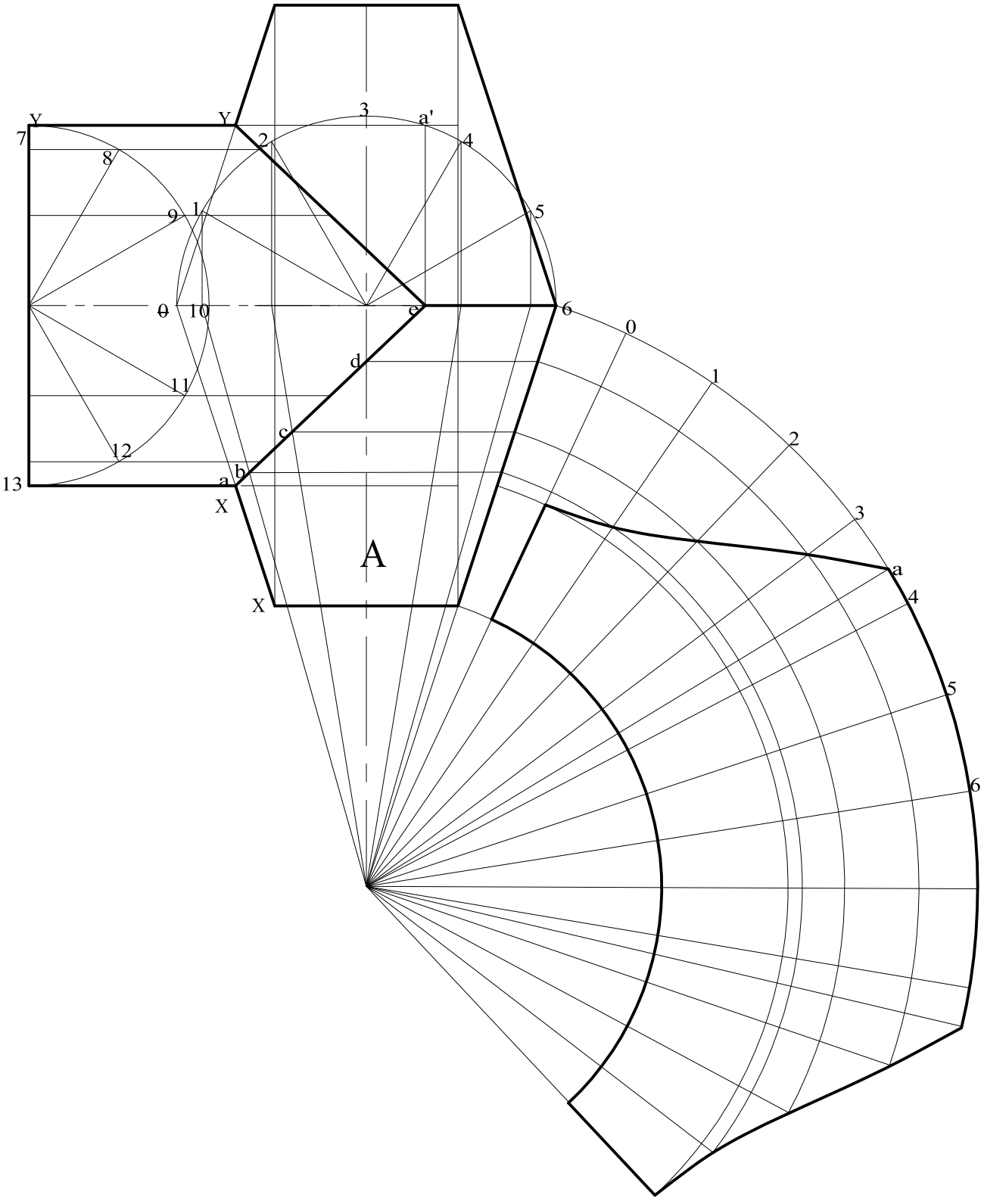


FIGURE 1

TWO-POINT CONICAL NOZZLE
SCALE 1:2

QUESTION 1

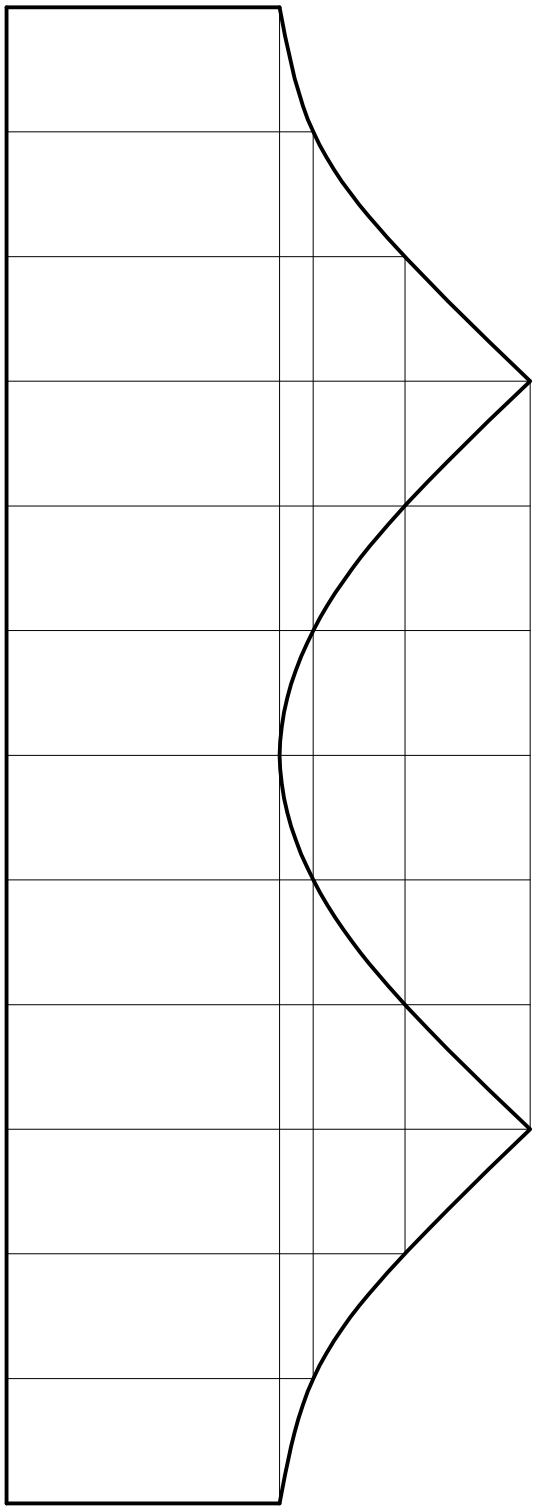
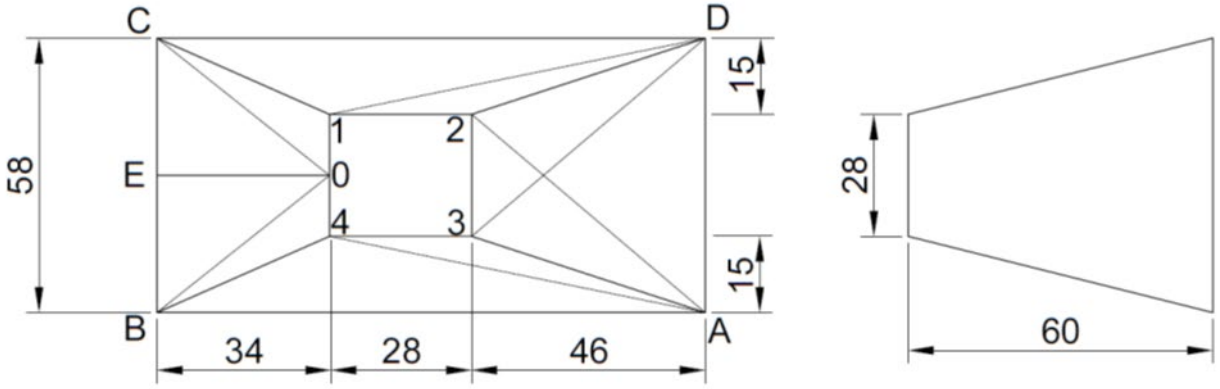


FIGURE 1
TWO-POINT CONICAL NOZZLE
SCALE 1:2

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QUESTION 2

CALCULATIONS AND DIAGRAMS



A2 & D3 = $\sqrt{46^2 + 43^2 + 60^2}$ = 86, 98 (2)

1-2; 2-3; 3-4 & 4-1 = 28 (1)

D2 & A3 = $\sqrt{46^2 + 15^2 + 60^2}$ = 77, 08 (2)

DC & AB = 108 (1)

D1 & A4 = $\sqrt{74^2 + 15^2 + 60^2}$ = 96, 44 (2)

4 - 0 & 1 - 0 = $\frac{28}{2}$ = 14 (1)

C1 & B4 = $\sqrt{34^2 + 15^2 + 60^2}$ = 70, 58 (2)

B0 & C0 = $\sqrt{34^2 + 29^2 + 60^2}$ = 74, 81 (2)

CE & BE = $\frac{58}{2}$ = 29 (1)

E0 = $\sqrt{34^2 + 60^2}$ = 68, 96 (1)

[15]

FIGURE 2
RECTANGLE-TO-SQUARE TRANSFORMER

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QUESTION 2

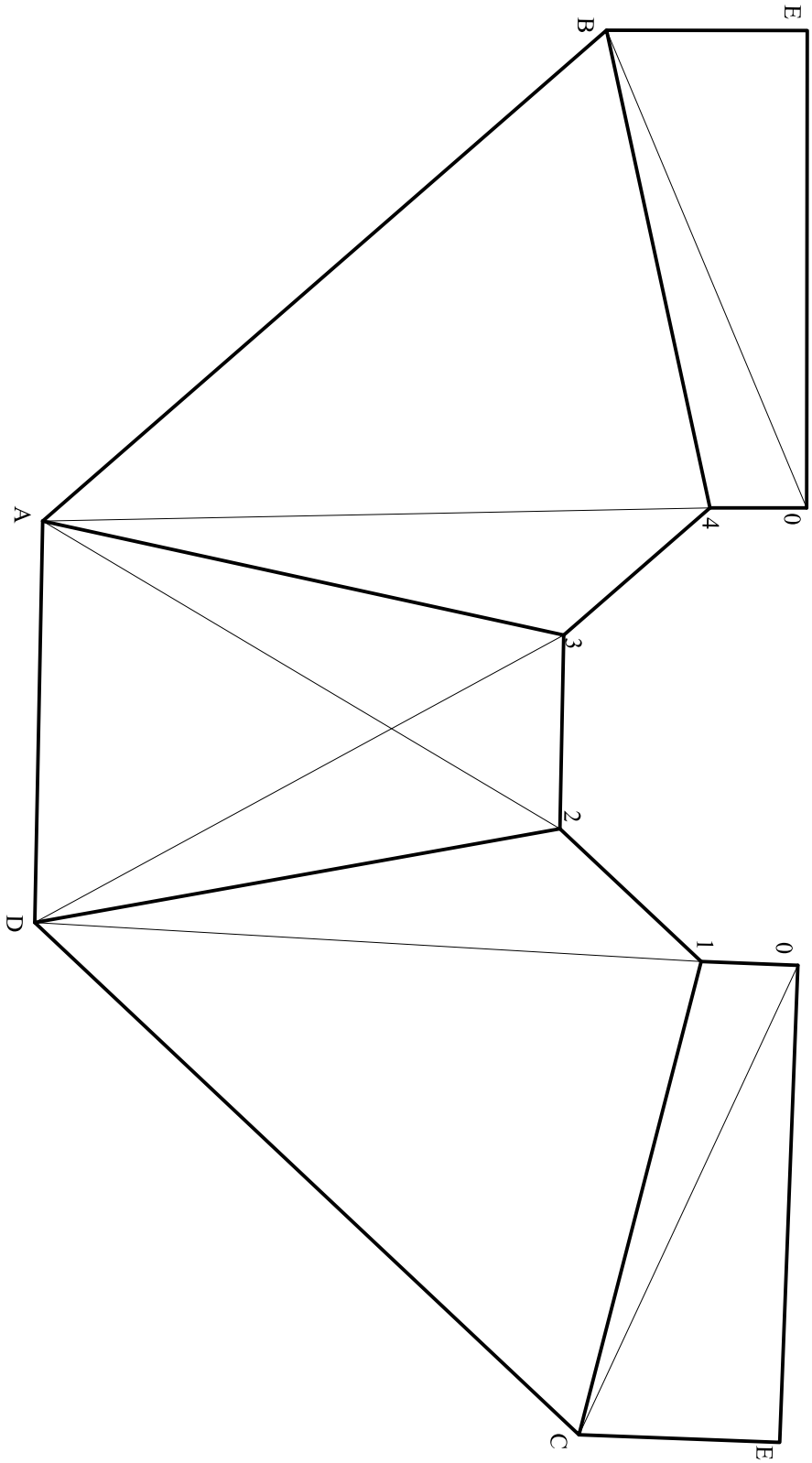


FIGURE 2
RECTANGLE-TO-SQUARE TRANSFORMER
SCALE 1:1

QUESTION 3

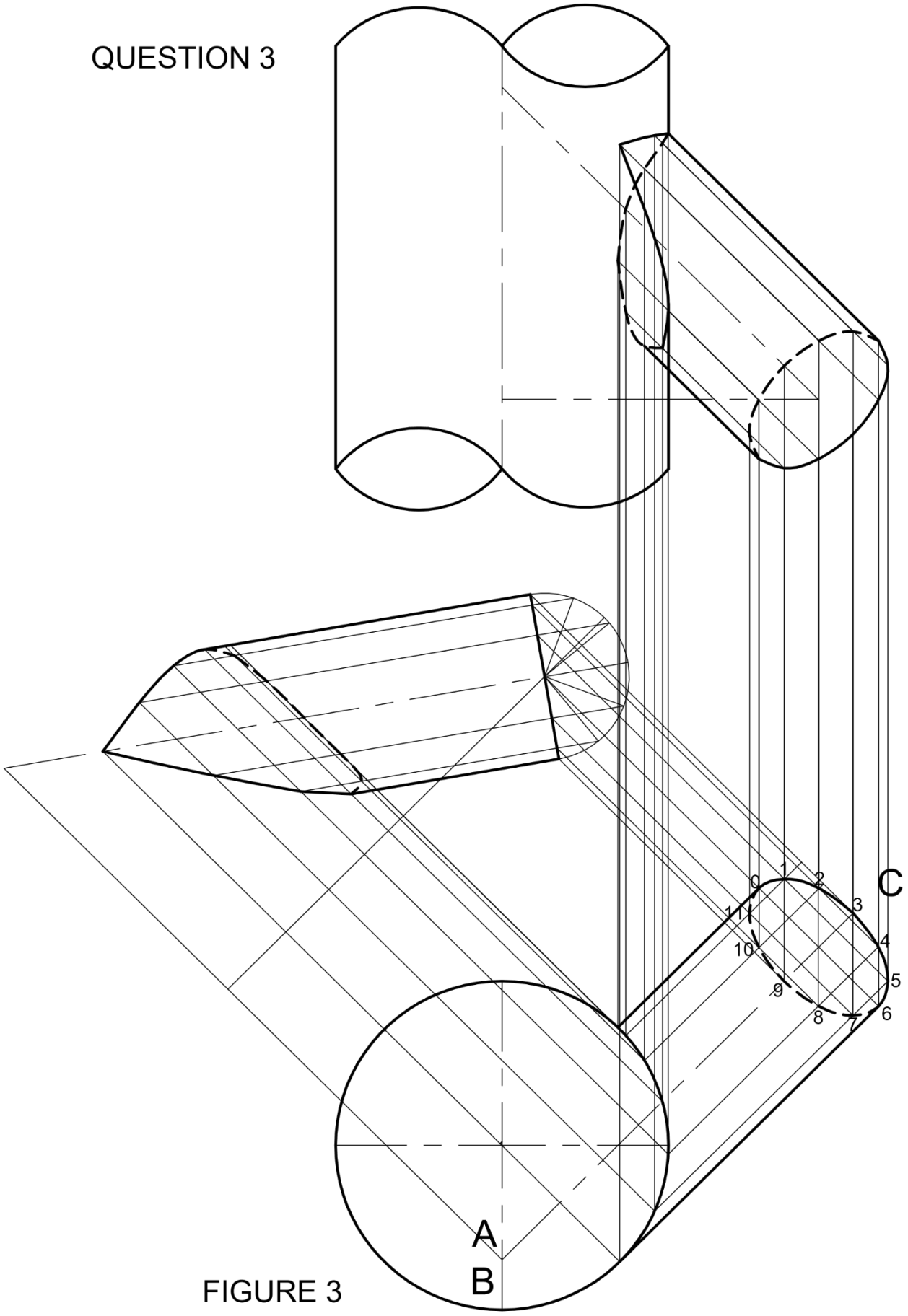


FIGURE 3

OFF-CENTRE CONNECTION

SCALE 1:10

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QUESTION 3

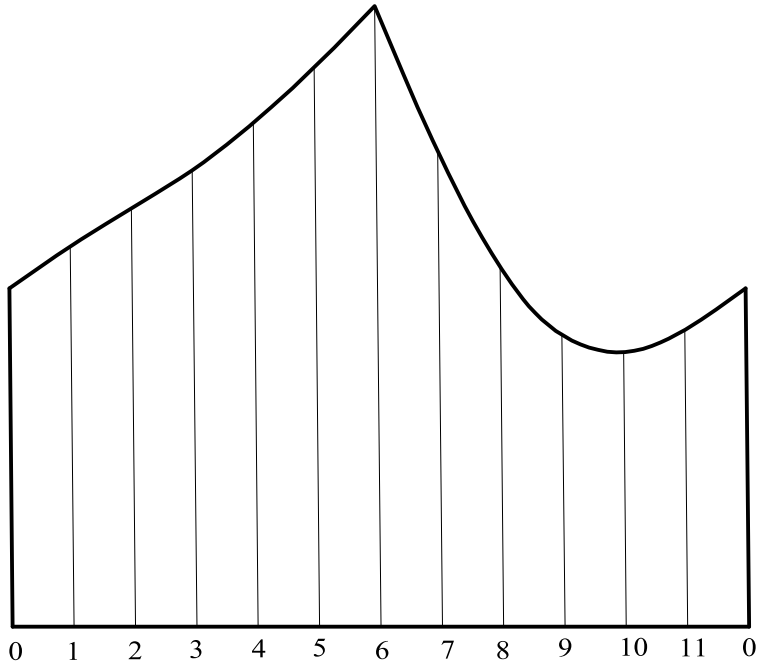


FIGURE 3
OFF-CENTRE CONNECTION
SCALE 1:10

QUESTION 4

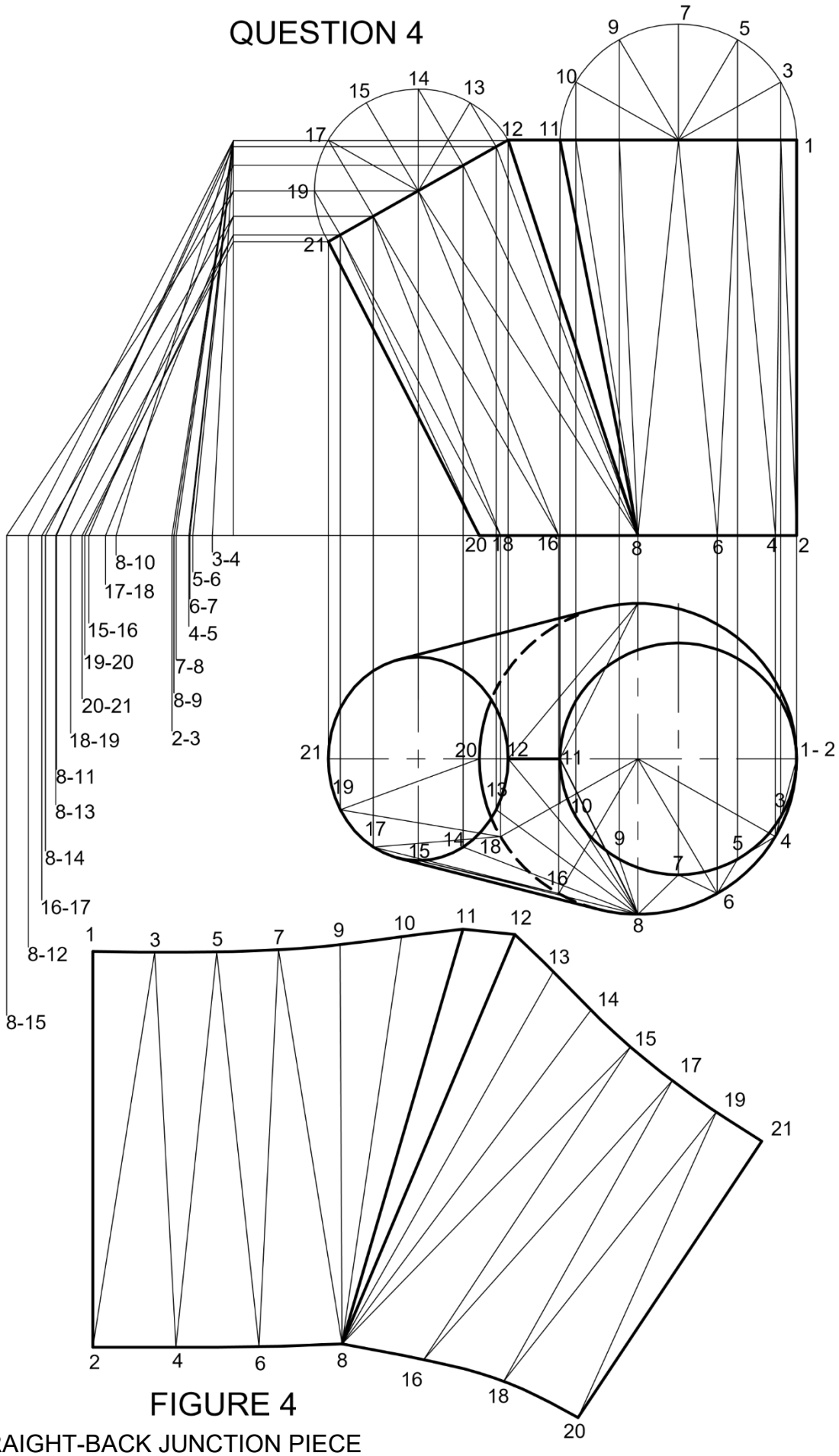


FIGURE 4

STRAIGHT-BACK JUNCTION PIECE
SCALE 1:10

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QUESTION 5

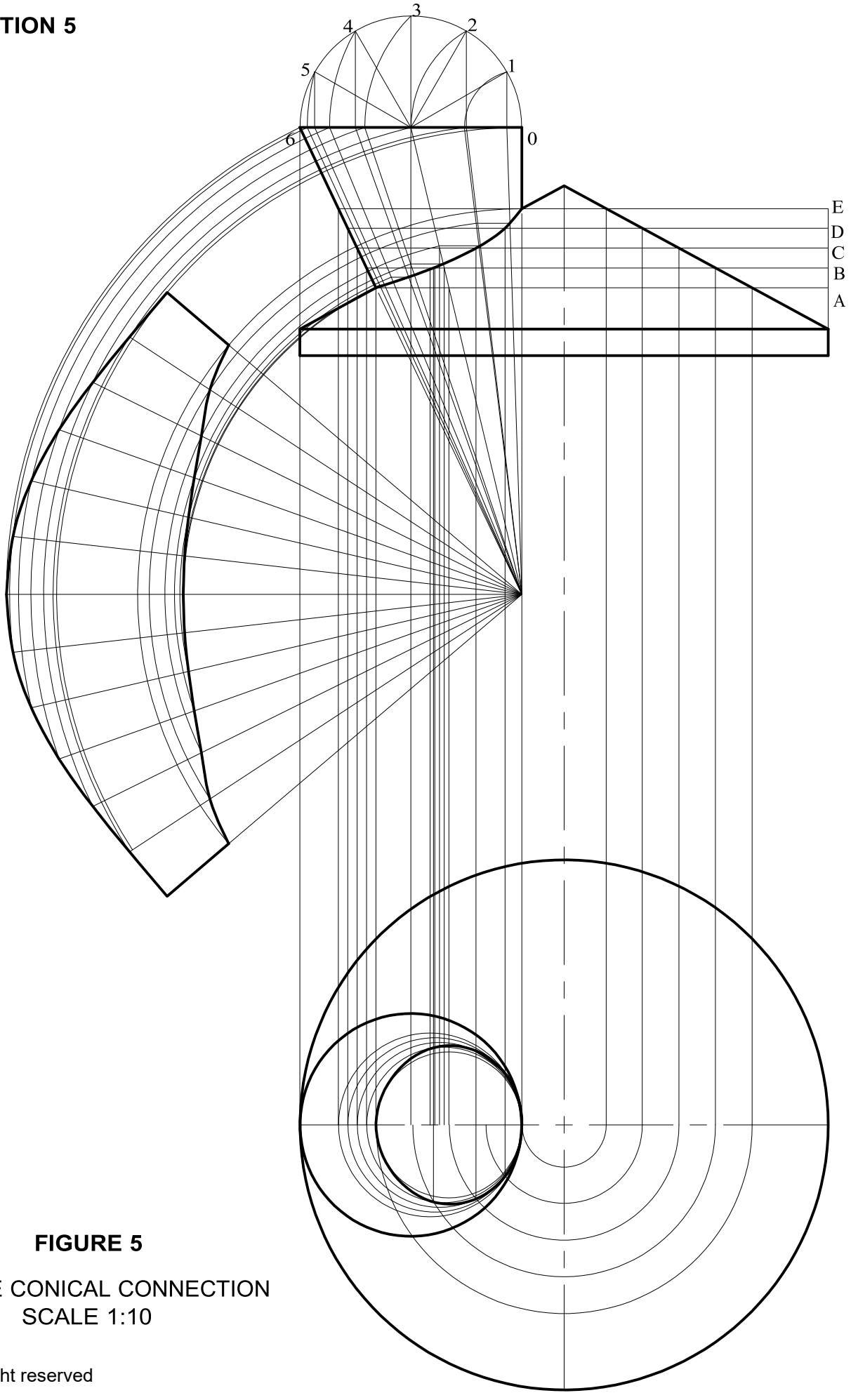


FIGURE 5

OBLIQUE CONICAL CONNECTION
SCALE 1:10

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