higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE

PLATING AND STRUCTURAL STEEL DRAWING N4

8 AUGUST 2019

This marking guideline consists of 11 pages.

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MARKSHEET

QUESTION 1

ACTIVITY	MARK
Front view with penetration curve	3
Left view with penetration curve	4
Top view (first projection)	2
Auxiliary view showing joint lines between pipes A, B and C	5
Pattern of pipe B	7
Accuracy	1
Line work and projections	2
Neatness	1
TOTAL	**25**

QUESTION 2

ACTIVITY	MARK
Front view (not to scale)	1
Top view (not to scale)	1
Calculations	15
Half pattern of the transition piece	6
Accuracy	1
Neatness	1
TOTAL	**25**

QUESTION 3

ACTIVITY	MARK
Front view	5
Top view	4
Half pattern of the hopper	12
Accuracy	1
Line work and projections	2
Neatness	1
TOTAL	**25**

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QUESTION 4

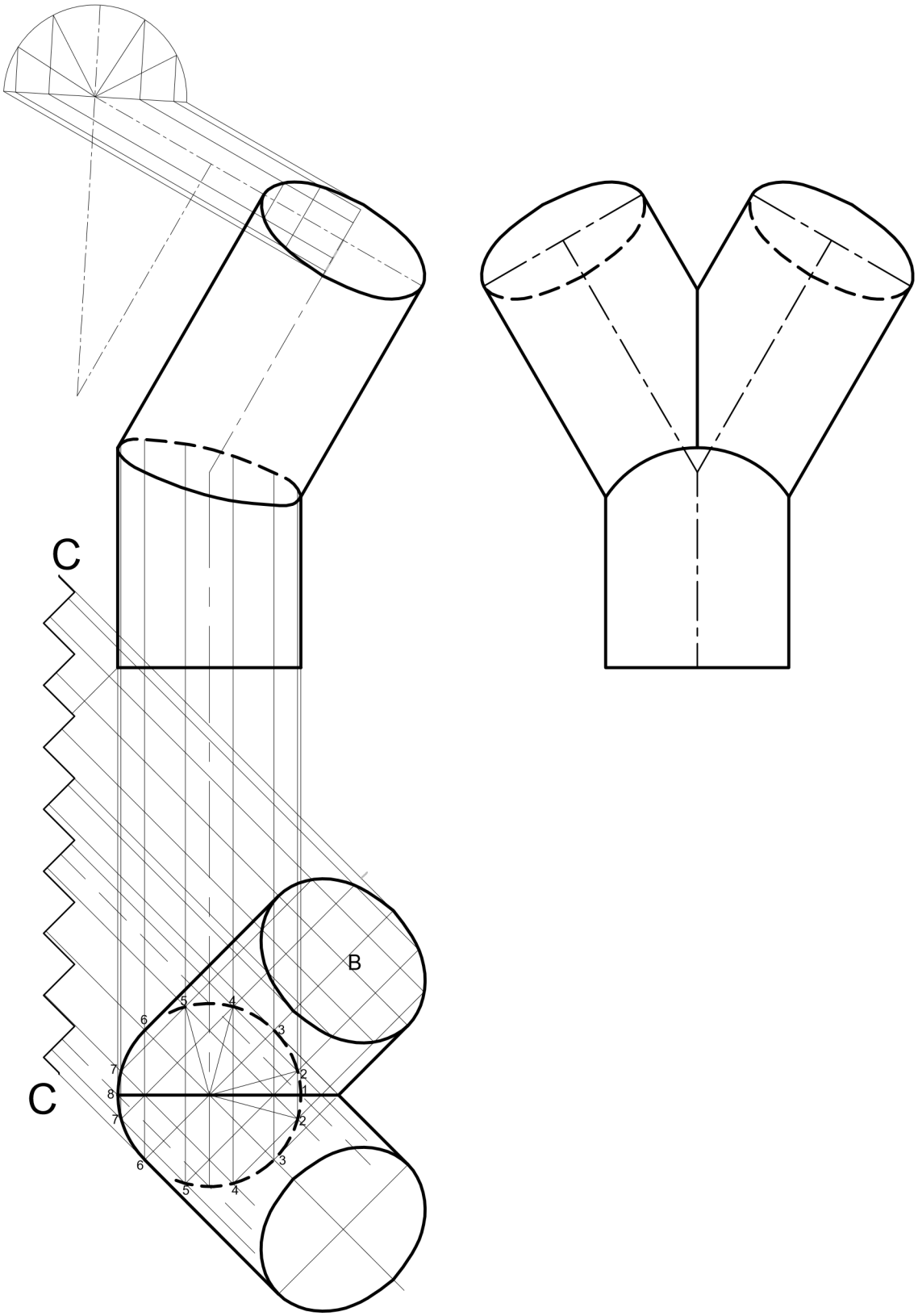
ACTIVITY	MARK
Front view	4
Top view	3
Left view	2
Pattern of side A	2
Pattern of side B	2
Pattern of side C	2
Pattern of side D	2
Pattern of side E	2
Pattern of side F	2
Accuracy	1
Line work and projections	2
Neatness	1
TOTAL	**25**

QUESTION 5

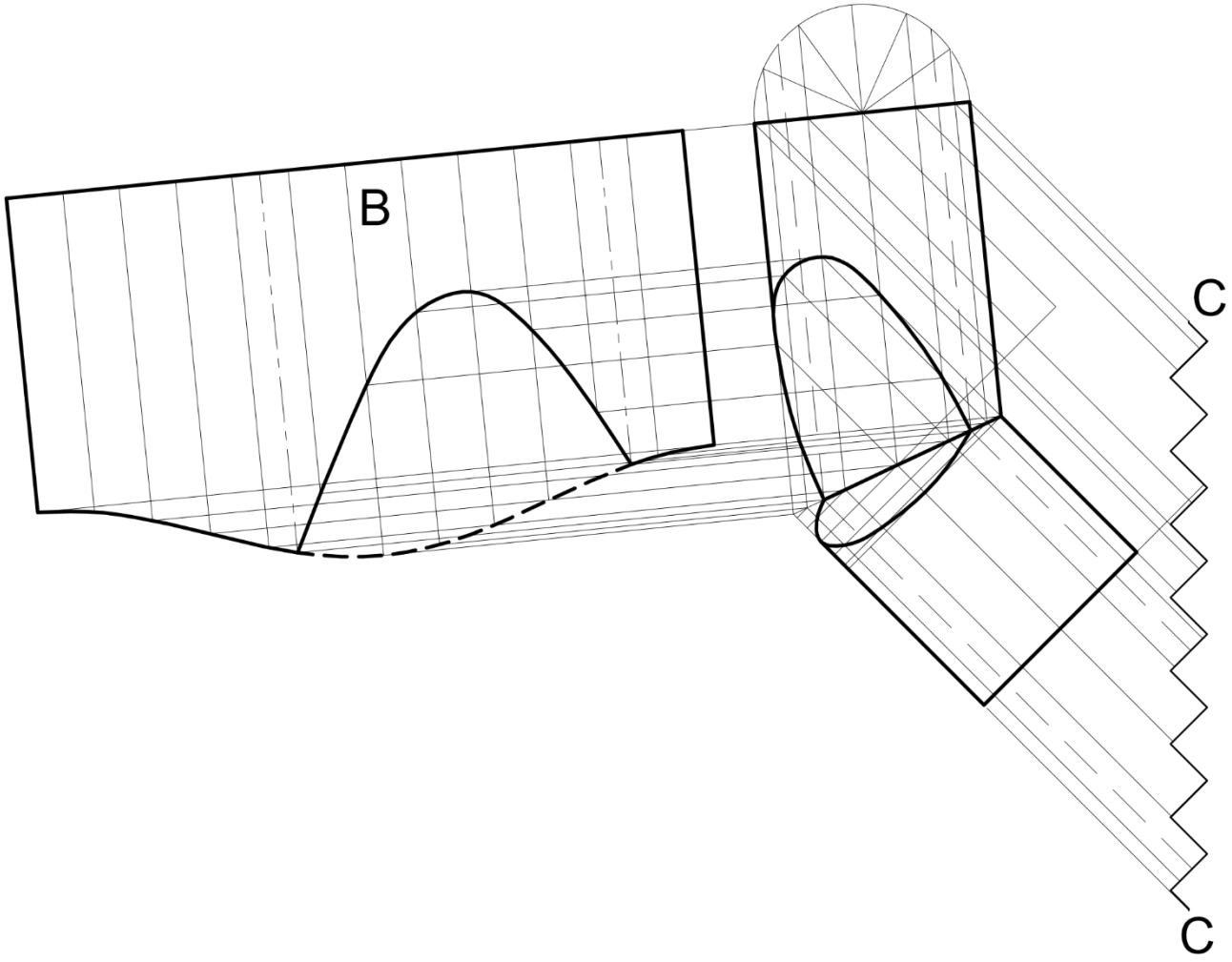
ACTIVITY	MARK
Front view without interpenetration line	2
Top view without interpenetration line	2
Interpenetration line in the front view and top view	5
Pattern of the 190 mm right conic connection A	9
Shape of the hole in the main cone	3
Accuracy	1
Line work and projections	2
Neatness	1
TOTAL	**25**

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QUESTION 1



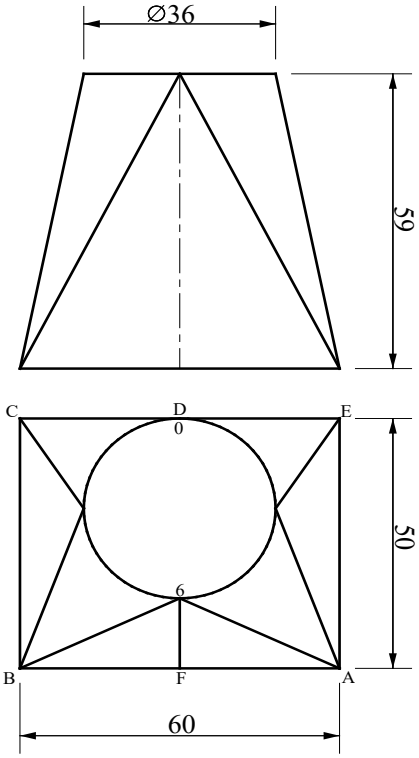
Y-PIECE INCLINED AT THE JOINT
SCALE 1:10



Y-PIECE INCLINED AT THE JOINT
SCALE 1:10 **[25]**

QUESTION 2

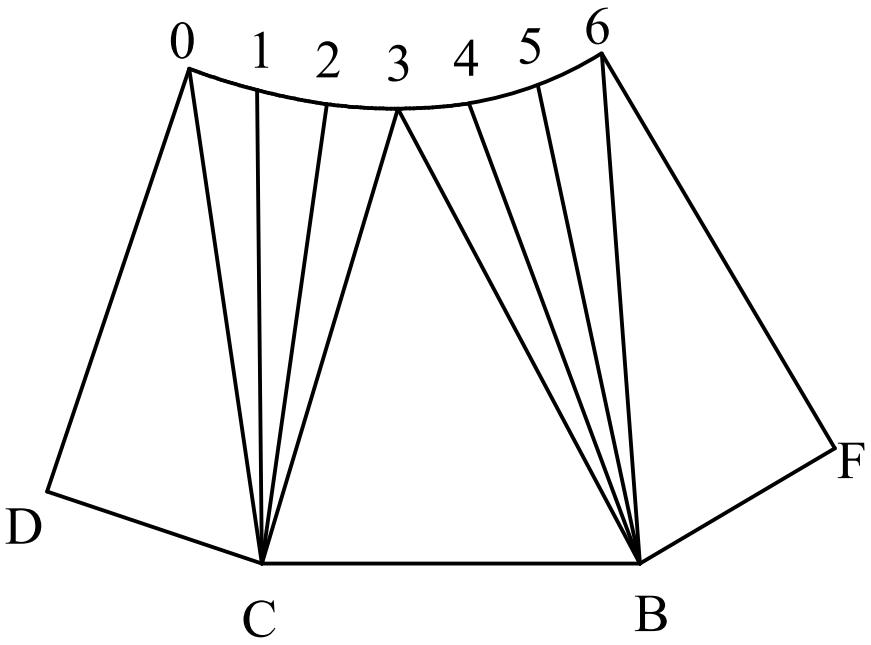
CALCULATIONS AND DIAGRAMS



RECTANGLE-TO-ROUND TRANSITION PIECE
SCALE 1:1

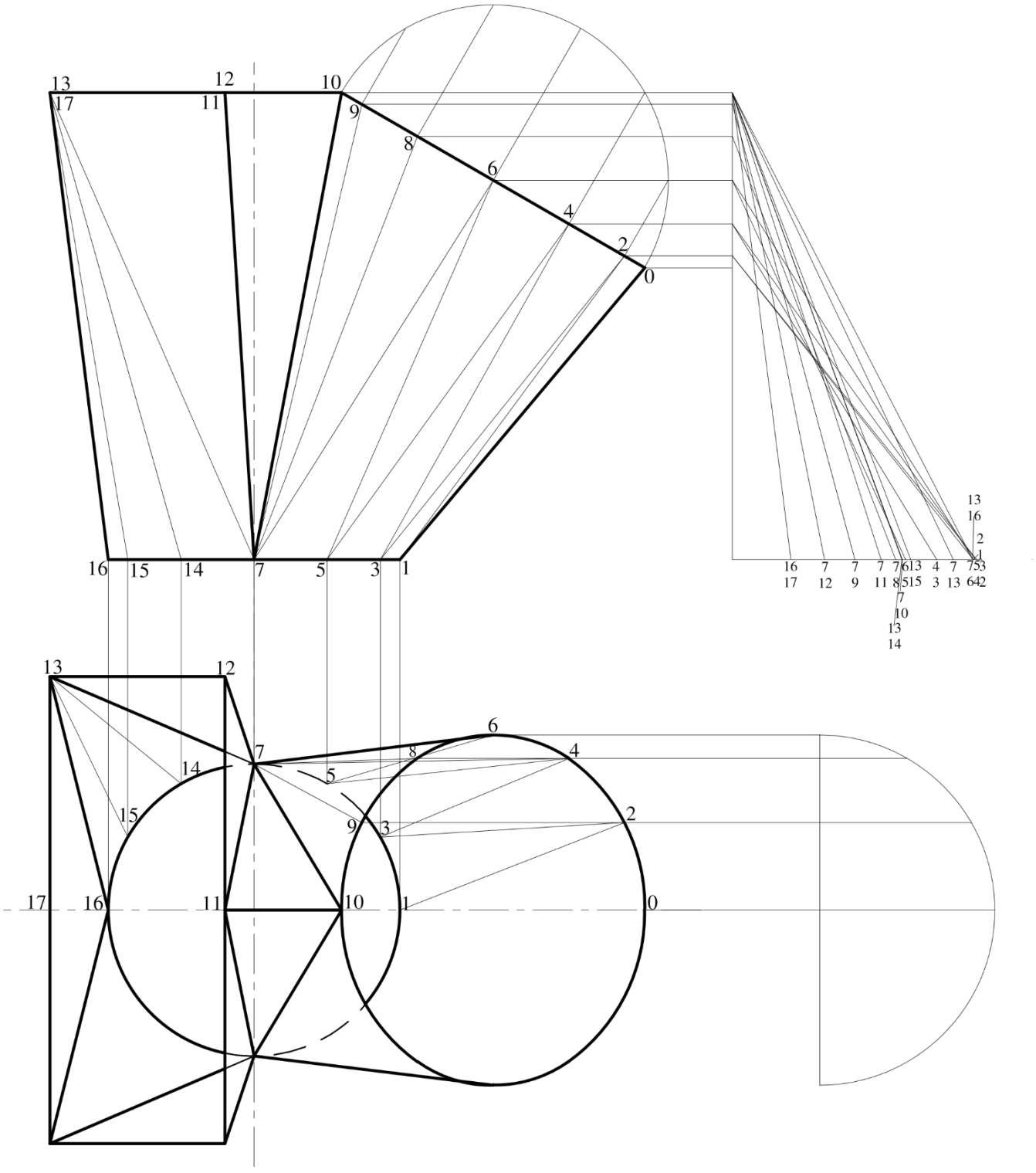
$\text{Arc length} = \frac{\pi \times 36}{12} = 9{,}424$	(1)
$\text{C0} = \sqrt{30^2 + 59^2} = 66{,}189$	(1)
$\text{C1} = \sqrt{(30-9)^2 + (18-15{,}588)^2 + 59^2} = 62{,}672$	(1½)
$\text{C2} = \sqrt{(30-15{,}588)^2 + (18-9)^2 + 59^2} = 61{,}398$	(1½)
$\text{C3} = \sqrt{12^2 + 18^2 + 59^2} = 62{,}841$	(1)
$\text{B3} = \sqrt{12^2 + 32^2 + 59^2} = 68{,}184$	(1)
$\text{B4} = \sqrt{(30-15{,}588)^2 + (32-9)^2 + 59^2} = 64{,}944$	(1½)
$\text{B5} = \sqrt{(30-9)^2 + (32-15{,}588)^2 + 59^2} = 64{,}741$	(1½)
$\text{B6} = \sqrt{30^2 + 14^2 + 59^2} = 67{,}654$	(1)
$\text{D0} = 59$	(1)
$\text{F6} = \sqrt{14^2 + 59^2} = 60{,}638$	(1)
$\text{CD \& BE} = 30$	(1)
$\text{BC \& AE} = 50$	(1)

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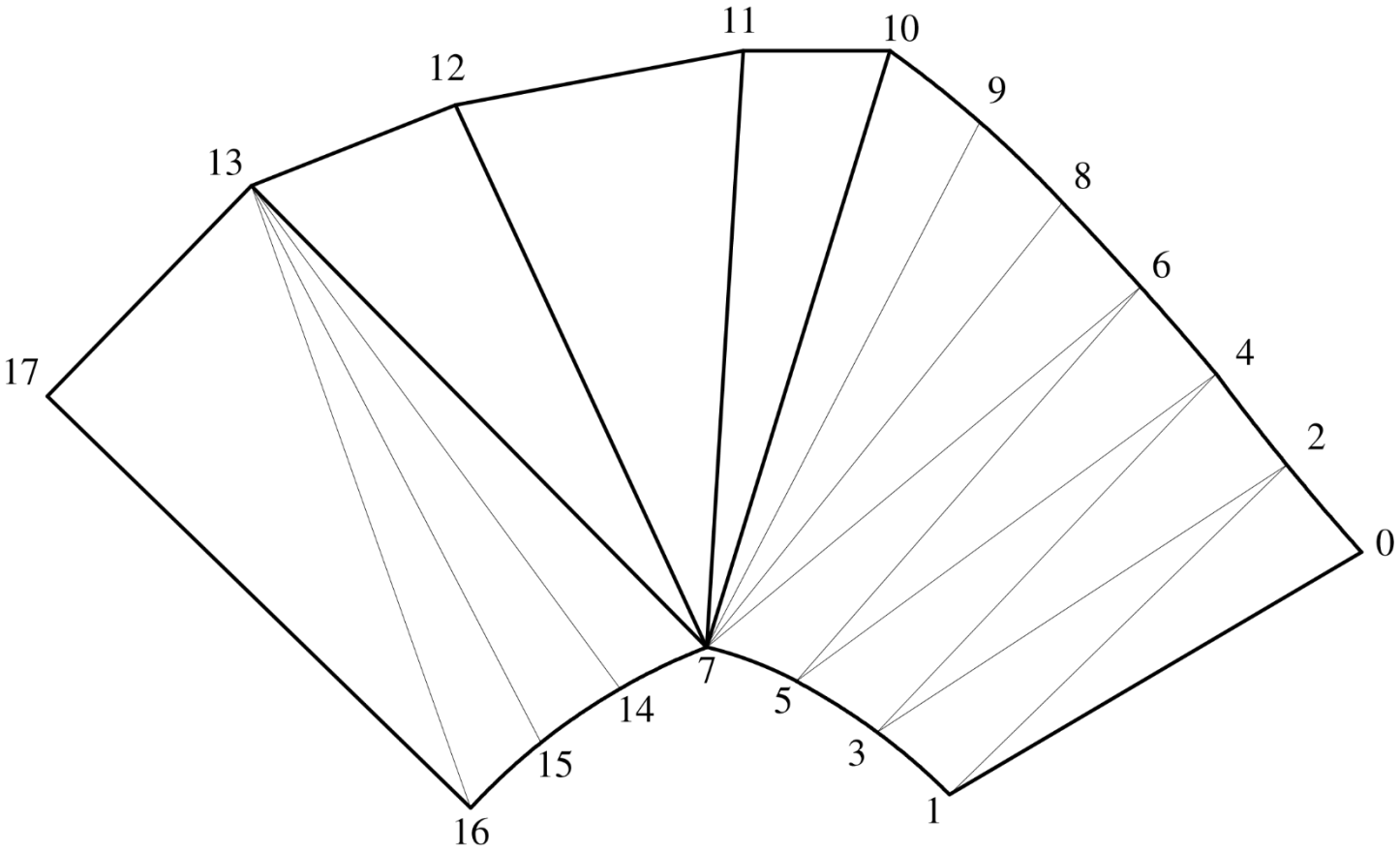


RECTANGLE-TO-ROUND TRANSITION PIECE
SCALE 1:1 **[25]**

QUESTION 3

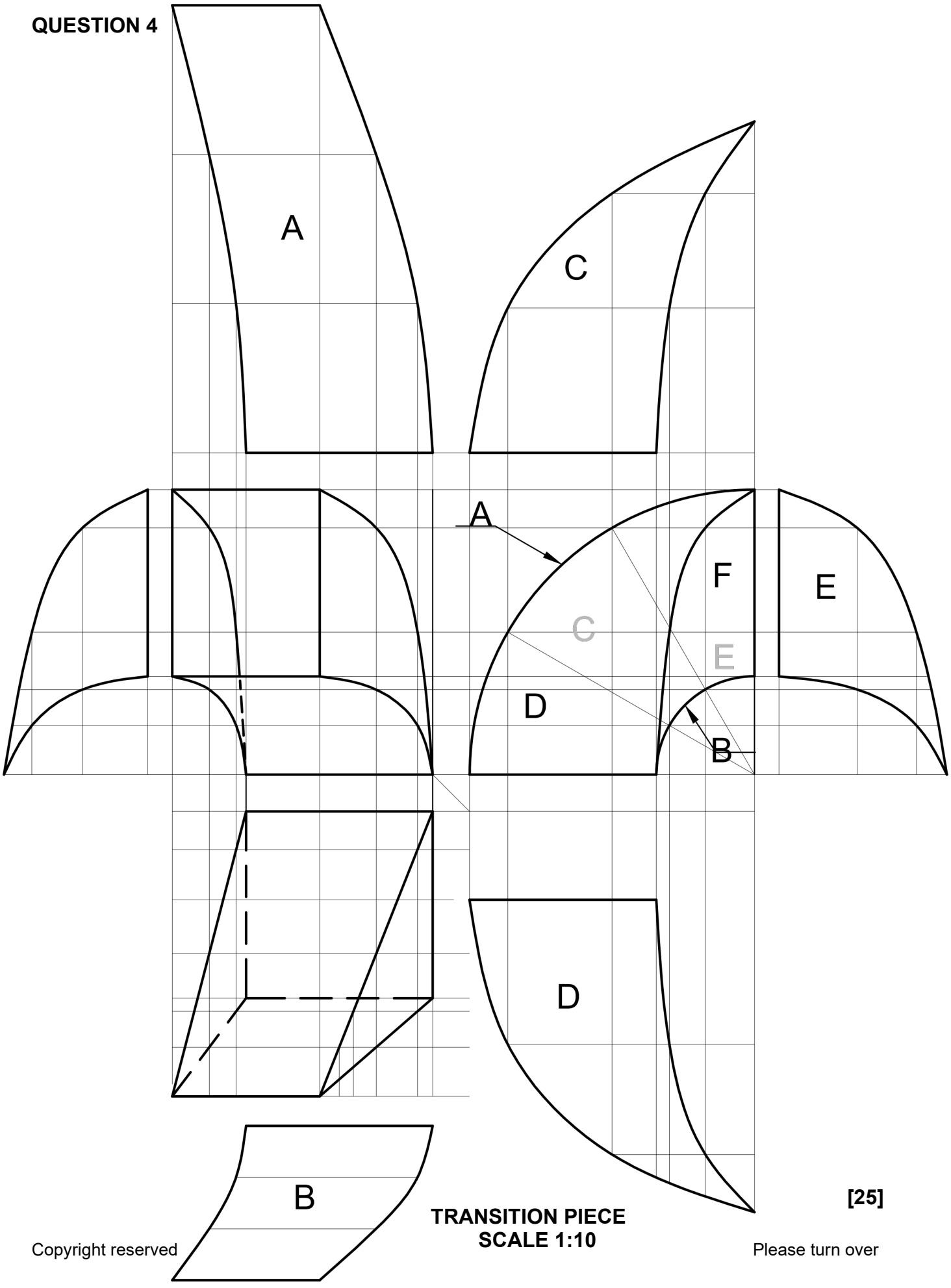


FEED HOPPER
SCALE 1:10



FEED HOPPER
SCALE 1:10 **[25]**

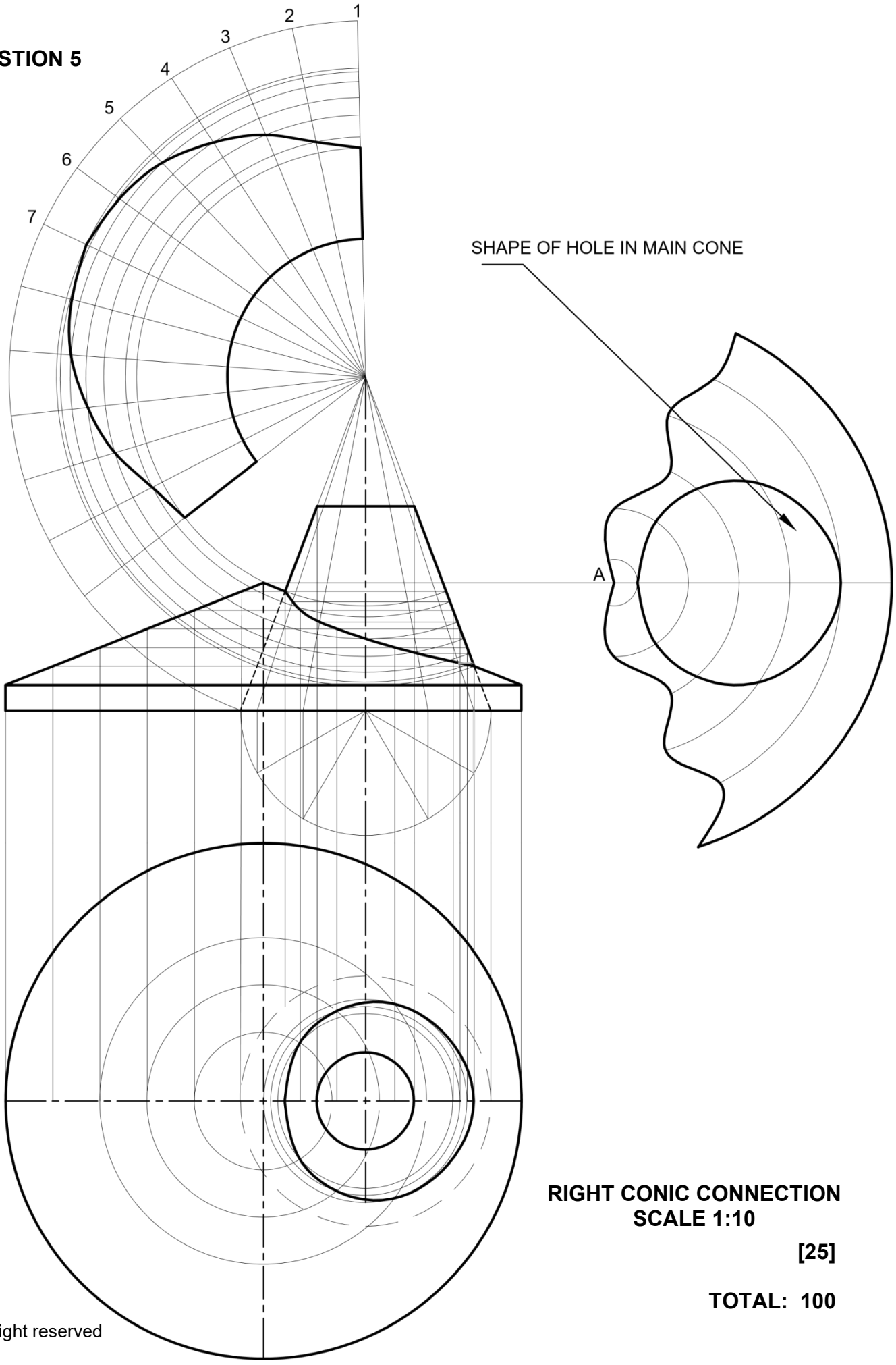
QUESTION 4



TRANSITION PIECE
SCALE 1:10

[25]

QUESTION 5



RIGHT CONIC CONNECTION
SCALE 1:10

[25]

TOTAL: 100

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