higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE

PLATING AND STRUCTURAL STEEL DRAWING N2

(8090102)

28 November 2022 (X-Paper)
09:00–13:00

REQUIREMENTS: ONE sheet of A2 drawing paper

Drawing instruments and nonprogrammable calculators may be used.

This question paper consists of 7 pages.

260Q1E2228

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DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE
PLATING AND STRUCTURAL STEEL DRAWING N2
TIME: 4 HOURS
MARKS: 100

NOTE: If you answer more than the required FOUR questions, only the FIRST FOUR questions will be marked. All work that you do not want to be marked must be clearly crossed out.

INSTRUCTIONS AND INFORMATION

1. Answer ANY FOUR questions.
2. Read ALL the questions carefully.
3. ALL the construction lines MUST be shown.
4. Do TWO questions on the FRONT and TWO questions on the REVERSE side of the DRAWING SHEET.
5. Number the answers according to the numbering system used in this question paper.
6. Add TWO dimensions to the answers.
7. Write neatly and legibly.

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QUESTION 1

FIGURE 1 shows a connection between a right cone and a cylindrical pipe.

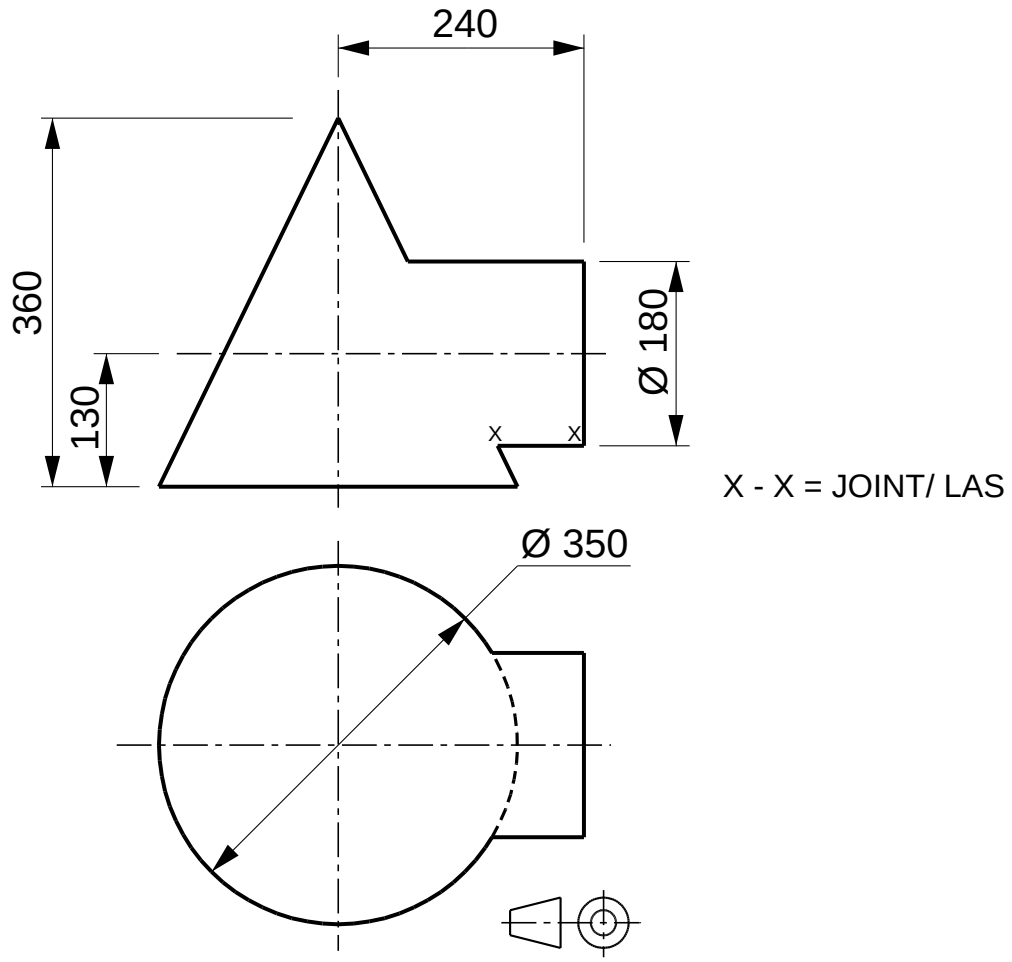


FIGURE 1

1.1	Draw the given views	(2)
1.2	Determine the line of penetration	(6)
1.3	Develop the shape of the hole in the right cone	(6)
1.4	Develop the pattern of the cylindrical pipe	(6)
1.5	Mark allocation for drawing office practice:	
	1.5.1 Dimensions	(2)
	1.5.2 Line work	(3)

SCALE 1:5 **[25]**

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QUESTION 2

FIGURE 2 shows two views of a rectangular-to-square transformer in first angle orthographic projection.

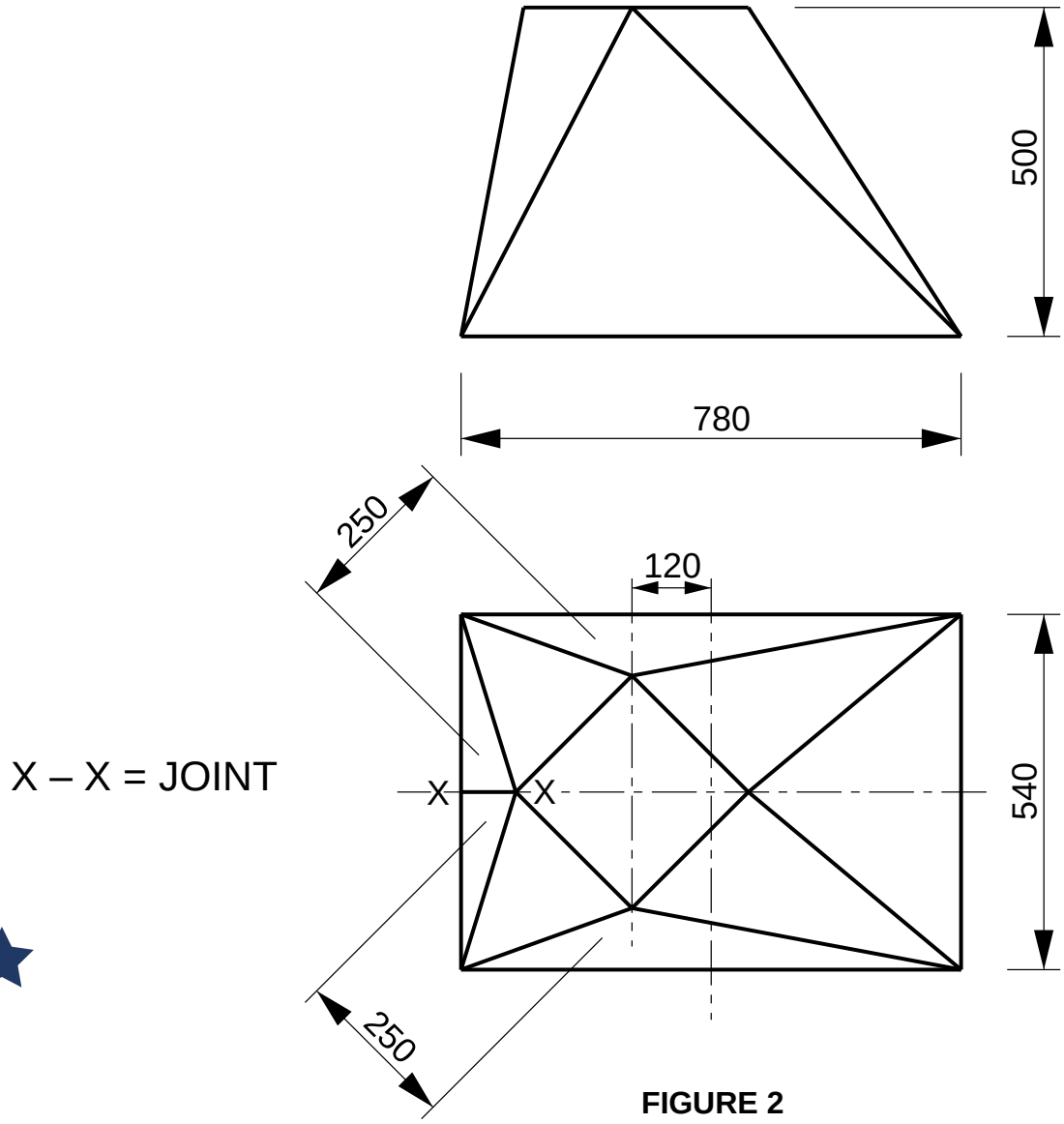


FIGURE 2

2.1 Draw the two views (2)

2.2 Develop the pattern of the plate for the transformer (18)

2.3 Mark allocation for drawing office practice:

2.3.1 Dimensions (2)

2.3.2 Line work (3)

SCALE 1:10 **[25]**

QUESTION 3

FIGURE 3 shows a lobster-back bend with a branch pipe.

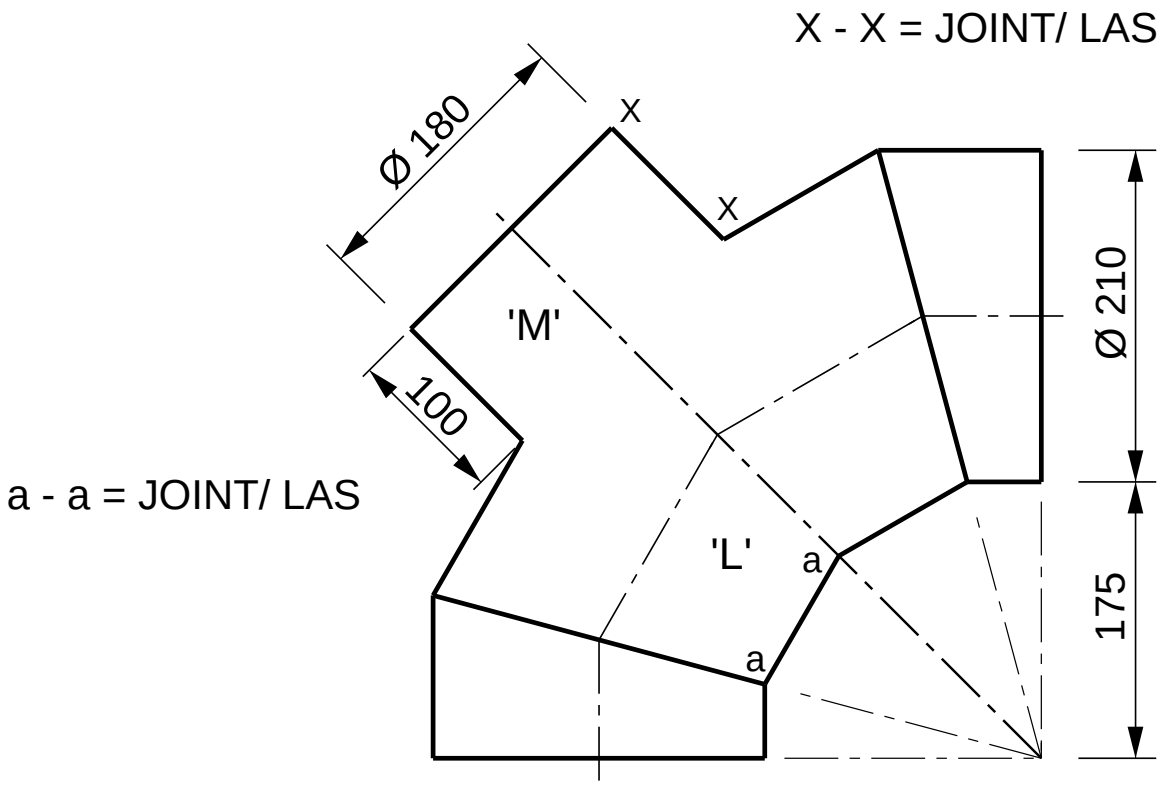


FIGURE 3

3.1	Draw the given view	(4)
3.2	Determine the line of penetration	(6)
3.3	Develop the pattern of segment 'L'	(6)
3.4	Develop the pattern of the branch pipe 'M'	(4)
3.5	Mark allocation for drawing office practice:	
	3.5.1 Dimensions	(2)
	3.5.2 Line work	(3)

SCALE 1:5 **[25]**

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QUESTION 4

FIGURE 4 shows two views of an oblique T-piece with a square branch pipe.

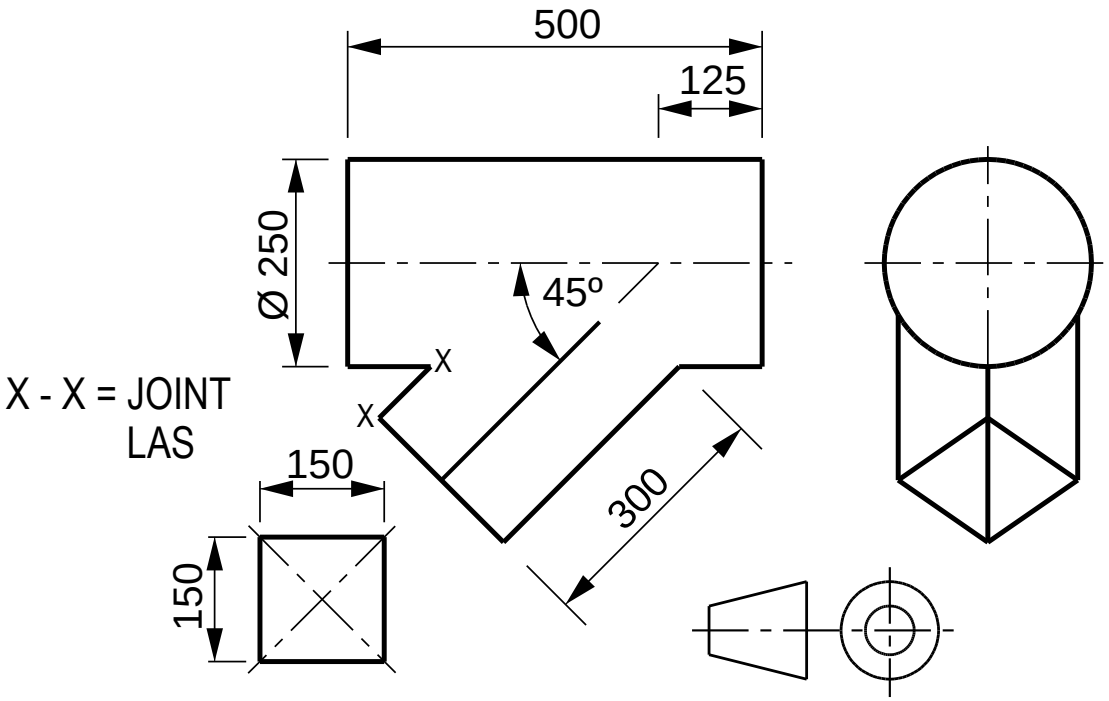


FIGURE 4

4.1	Draw the two views	(2)
4.2	Determine the line of penetration	(6)
4.3	Develop the pattern of the branch pipe	(6)
4.4	Develop the shape of the hole in the cylindrical pipe	(6)
4.5	Mark allocation for drawing office practice:	
	4.5.1 Dimensions	(2)
	4.5.2 Line work	(3)

SCALE 1:5 **[25]**

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QUESTION 5

FIGURE 5 shows a T-piece made of equal diameter cylindrical pipes which is strengthened with a gusset.

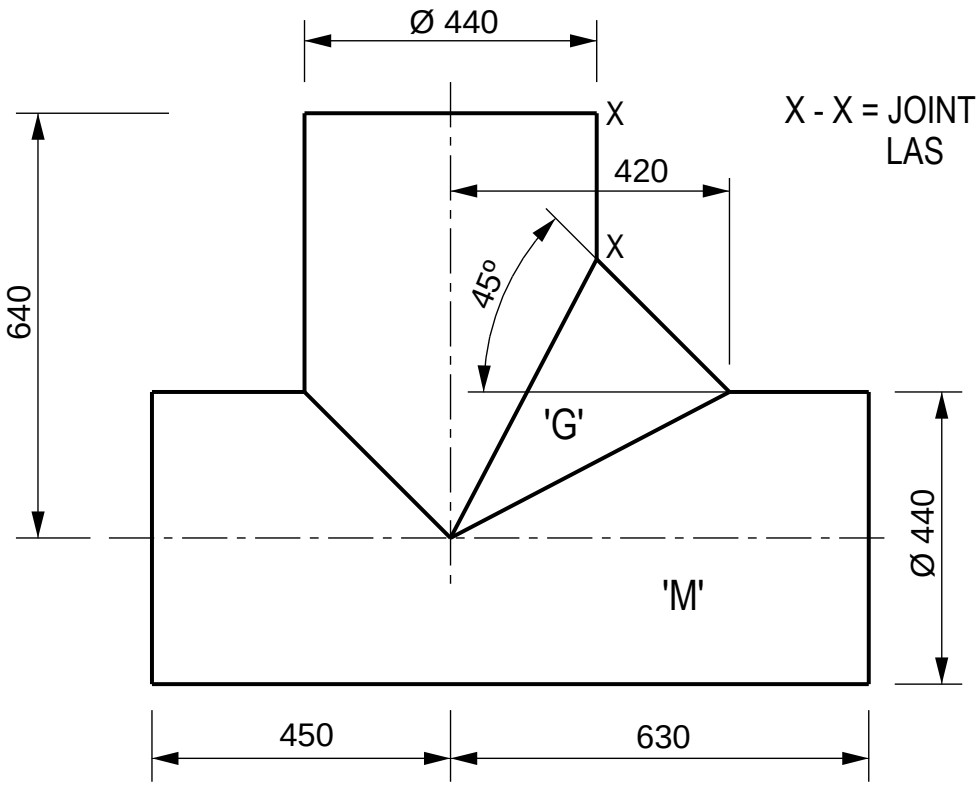


FIGURE 5

5.1	Draw the given view	(3)
5.2	Develop the pattern of the gusset 'G'	(10)
5.3	Develop the shape of the hole in pipe 'M'	(7)
5.4	Mark allocation for drawing office practice:	
	5.4.1 Dimensions	(2)
	5.4.2 Line work	(3)

SCALE 1:10 **[25]**

GRAND TOTAL: 100

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