

$\sqrt{2}$

$\theta = 30^\circ (2)$

$\sqrt{2}$

FIG. 11

[13]

FIG. 12

GEEN VS ✓  
NO VT ✓

[10]

TEGNIесе TEKENE  
TECHNICAL DRAWING SG 711-2/1

Vraag 1

Figuur 1.1 toon die vooraansig en boaansig van 'n woning en 'n lugdraad EF. Bepaal:		
1.1.1 Die ware lengte van die lugdraad EF	5	
1.1.2 Die ware vorm van die daksy ABC	6	
1.1.3 Die ware hoek van die lugdraad met die dakgewel BE	2	
	13	

Figuur 1.2 toon 'n isometriese aansig van lynstuk AB. Die lynstuk is parallel met die vertikale vlak en 15 mm voor die vertikale vlak. Punt A en B is onderskeidelik 10 mm en 30 mm vanaf die horisontale vlak. Die ware lengte van lynstuk AB is 40 mm. Maak gebruik van die gegewe X-Y lyn en bepaal:		
1.2.1 Die vooraansig van die lynstuk	4	
1.2.2 Die boaansig van die lynstuk	2	
1.2.3 Die snyspore VS en HS	4	
	10	
Lynwerk en netheid	1	
Totaal	24	

Question 1

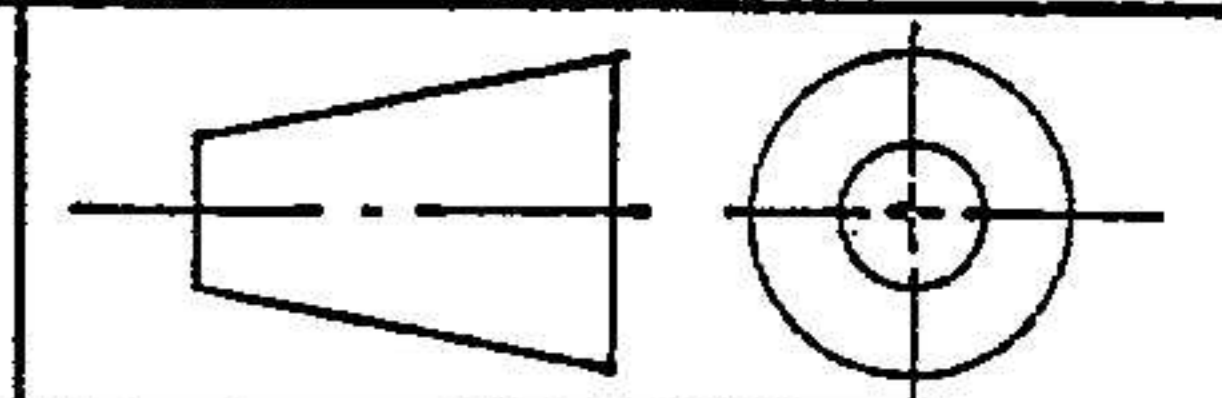
Figure 1.1 shows the front view and top view of a dwelling and an aerial wire EF. Determine:		
1.1.1 The true length of the aerial wire EF	5	
1.1.2 The true shape of roof the side ABC	6	
1.1.3 The true angle between the roof gable BE and the aerial wire	2	
	13	

Figure 1.2 shows the isometric view of a line segment AB. The line segment is 15 mm in front of the vertical plane and parallel to the vertical plane. Points A and B are 10 mm and 30 mm respectively from the horizontal plane. The true length of line segment AB is 40 mm. Make use of the given X-Y line and determine:		
1.2.1 The front view of the line segment	4	
1.2.2 The top view of the line segment	2	
1.2.3 The traces VT and HT	4	
	10	
Linework and neatness	1	
	24	

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ANTWOORDVEL  
ANSWER SHEET 1

VRAAG  
QUESTION 1





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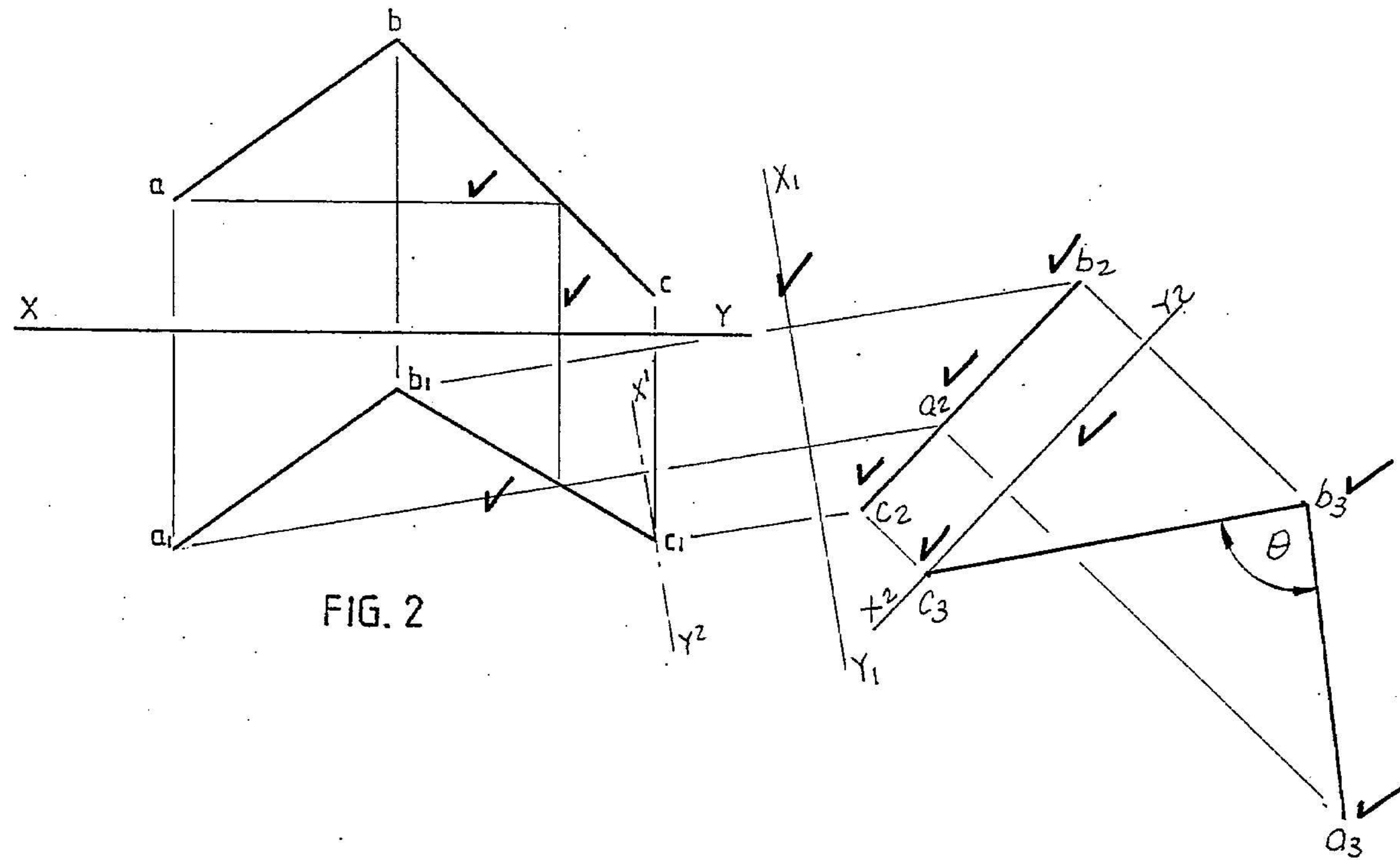


FIG. 2

$\theta = 86^\circ$

[13]

Vraag 2

Figuur 2 toon die vooraansig en boaansig van lynstukke AB en BC wat in dieselfde vlak lê. Bepaal die ware hoek ABC tussen die twee lynstukke.

Lynwerk en netheid	1	
Totaal	14	

Question 2

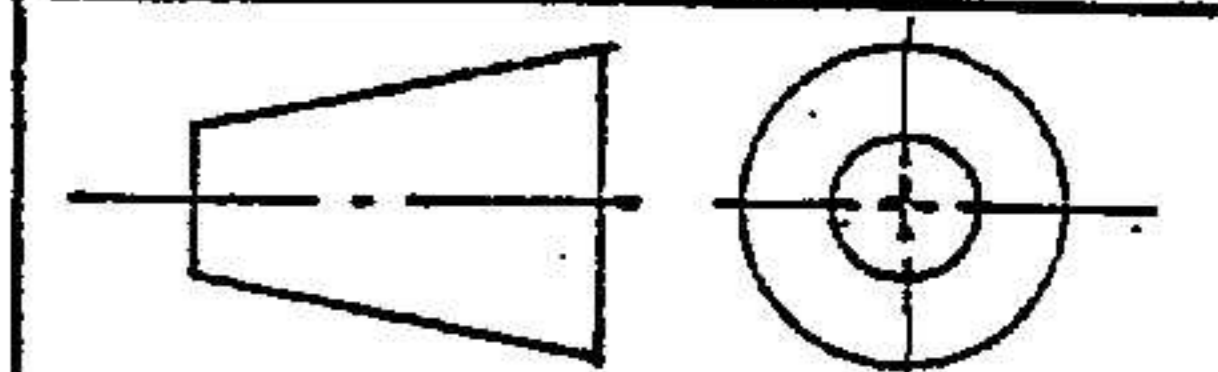
Figure 2 shows the front view and top view of line segments AB and BC that lies in the same plane. Determine the true angle ABC between the line segments.

Linework and neatness	1	
Total	14	

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ANTWOORDVEL  
 ANSWER SHEET 2

VRAAG  
 QUESTION 2



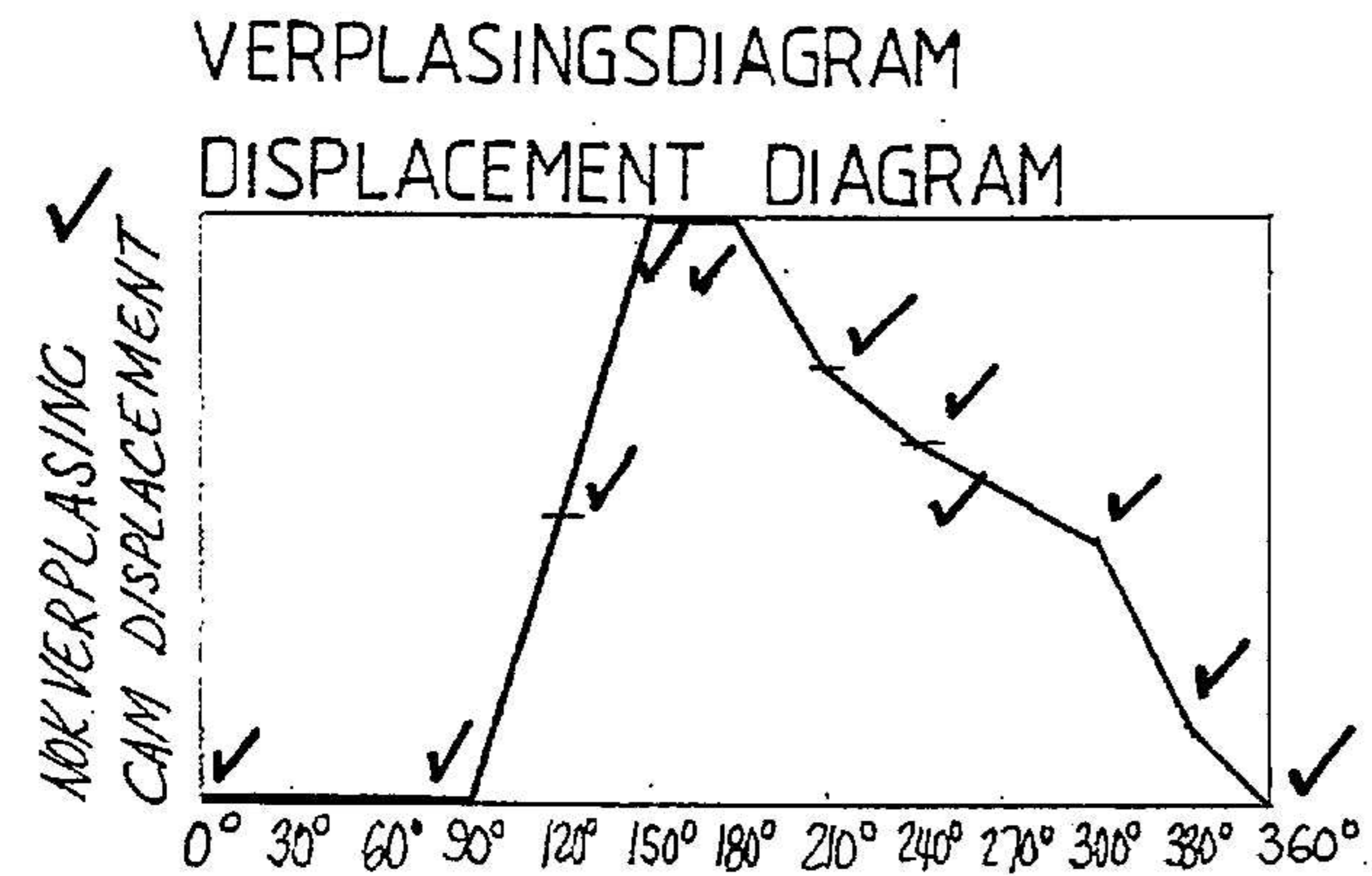


Vraag 3

Figuur 3 toon die nokprofiel van 'n wigvormige nokvolger. Bepaal:		
3.1 Die voltooide verplasingsdiagram	13	
3.2 Die draairigting. (Dui draairigting met behulp van 'n pyltjie aan).	2	
Lynwerk en netheid	1	
<b>Totaal</b>	<b>16</b>	

Question 3

Figure 3 shows the cam profile of a wedge shaped cam follower. Determine:		
3.1 The completed displacement diagram	13	
3.2 The direction of rotation. (Indicate direction by means of an arrow).	2	
Linework and neatness	1	
<b>Total</b>	<b>16</b>	



NOK ROTASIE ✓ [13]  
CAM ROTATION

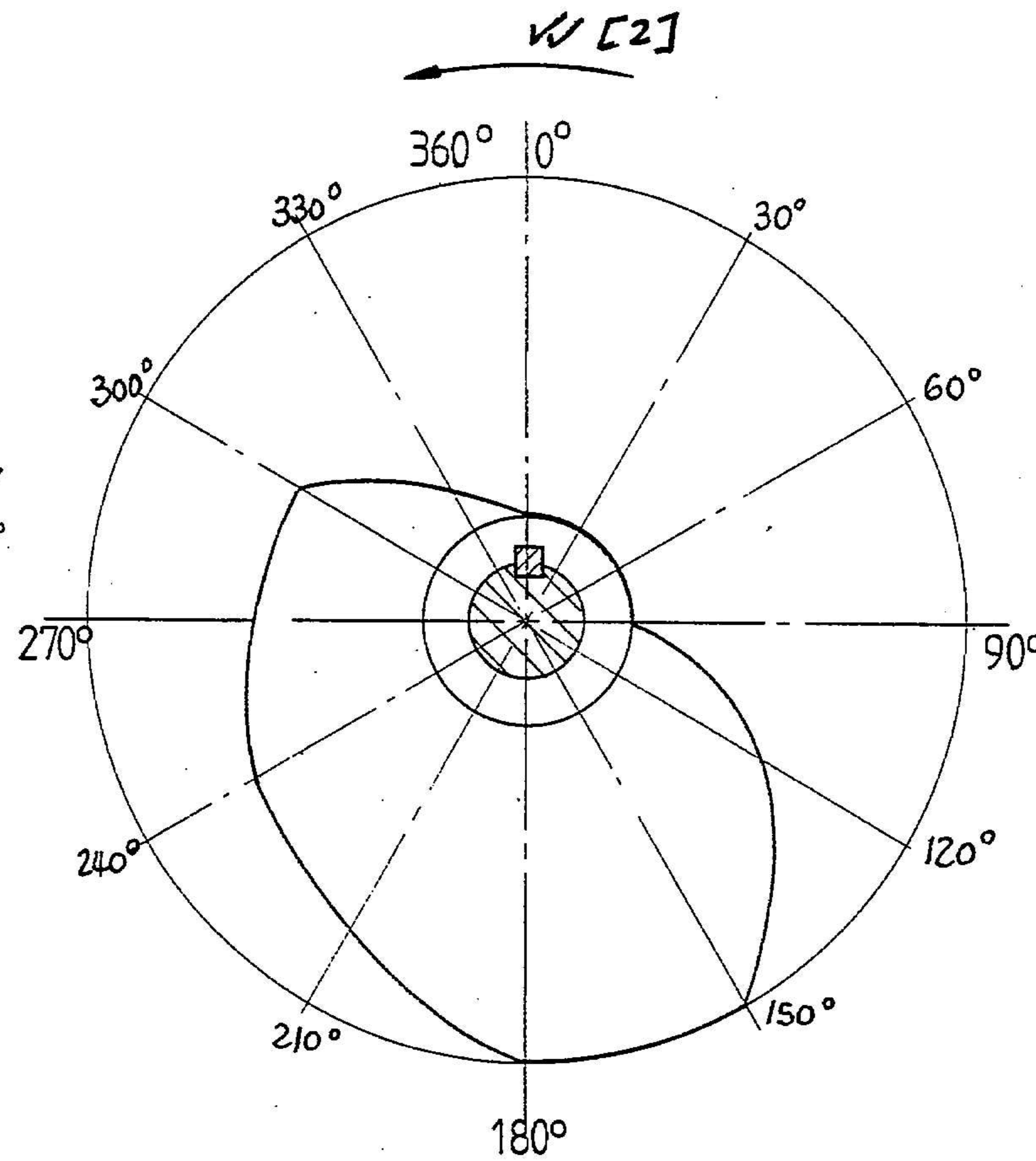


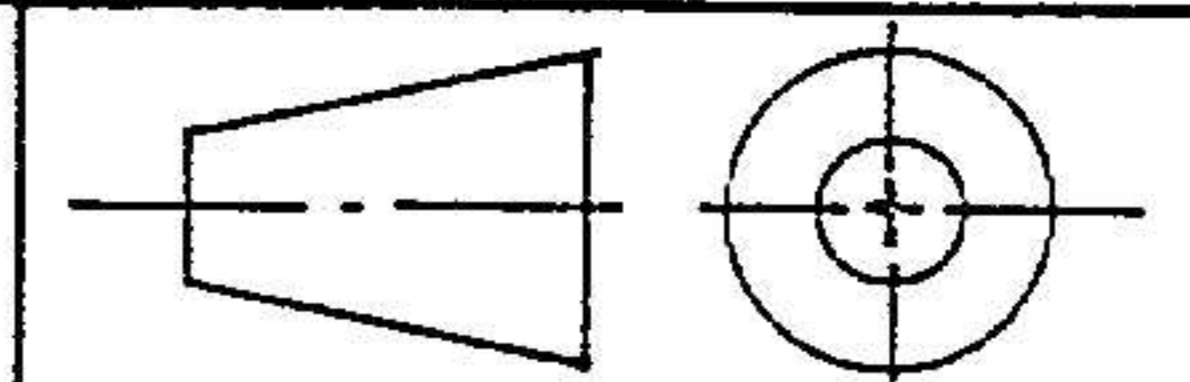
FIG. 3

[15]

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ANSWER SHEET

VRAAG 3  
QUESTION





TEGNIËSE TEKENE  
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Vraag 4

Figuur 4 toon 'n skyf asook die baan waarop dit moet rol. Bepaal:

- 4.1 Die lokus van punt P wanneer die skyf op die ronde baan rol vir een omwenteling vanaf punt A tot by B. 18
- 4.2 Die lokus van punt P wanneer die skyf vir 'n verdere halwe omwenteling rol op die reguit baan vanaf punt B in die rigting van A. 10  
(Toon alle berekenings).

Lynwerk en nethheid 1

Total 29

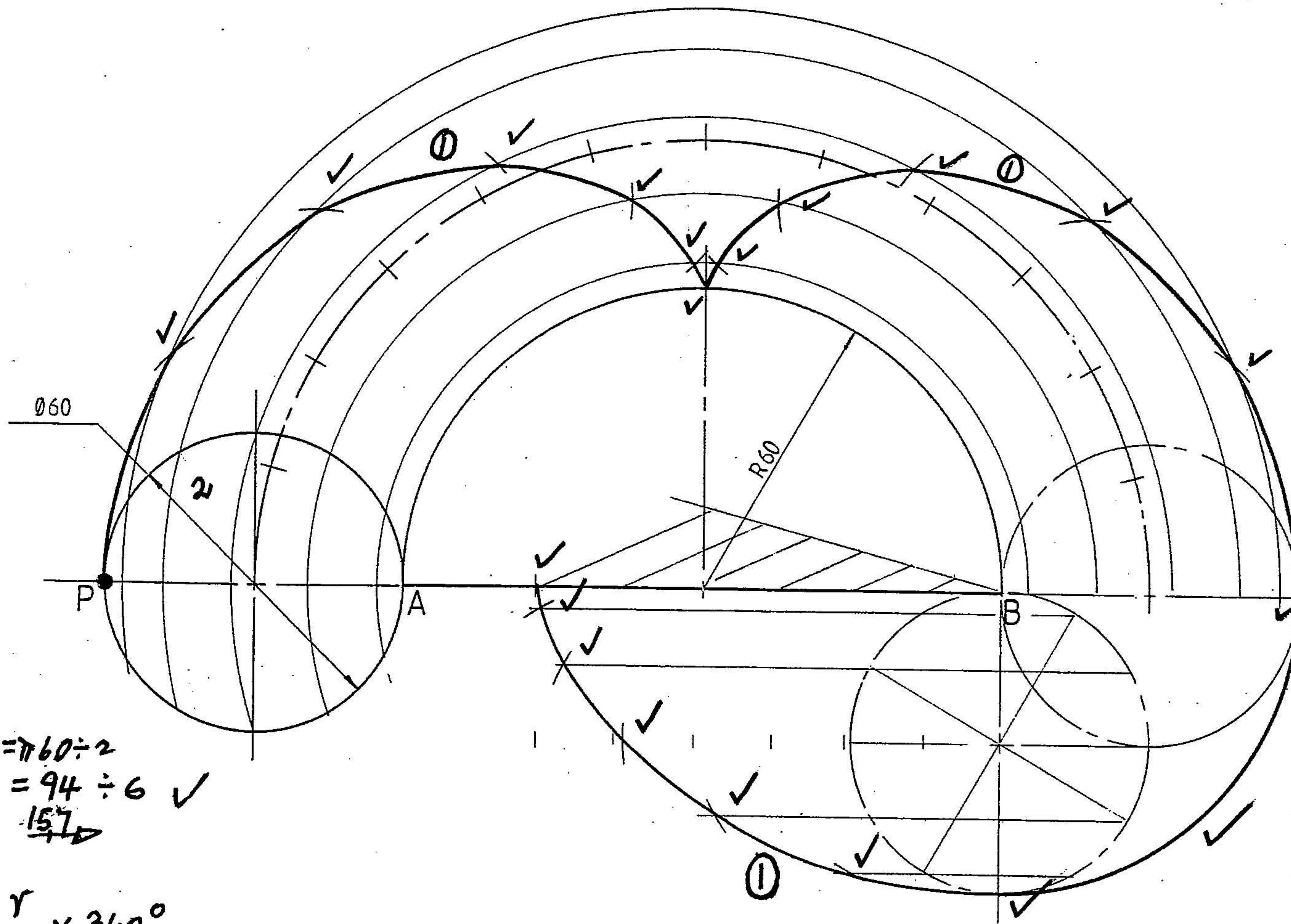
Question 4

Figure 4 shows a disc as well as the surface on which it rolls. Determine:

- 4.1 The locus of point P if the disc rolls for one revolution on the curved surface from point A to B. 18
- 4.2 The locus of point P if the disc rolls for a further half a revolution on the straight surface from point B in the direction of A. 10  
(Show all calculations).

Linework and neatness 1

Total 29



$$\pi D = \pi 60 \div 2$$

$$= 94 \div 6 \checkmark$$

$$15.7 \rightarrow$$

$$\frac{r}{R} \times 360^\circ$$

$$= \frac{30^\circ}{60^\circ} \times 360^\circ \checkmark$$

$$= 180^\circ \div 12 \checkmark$$

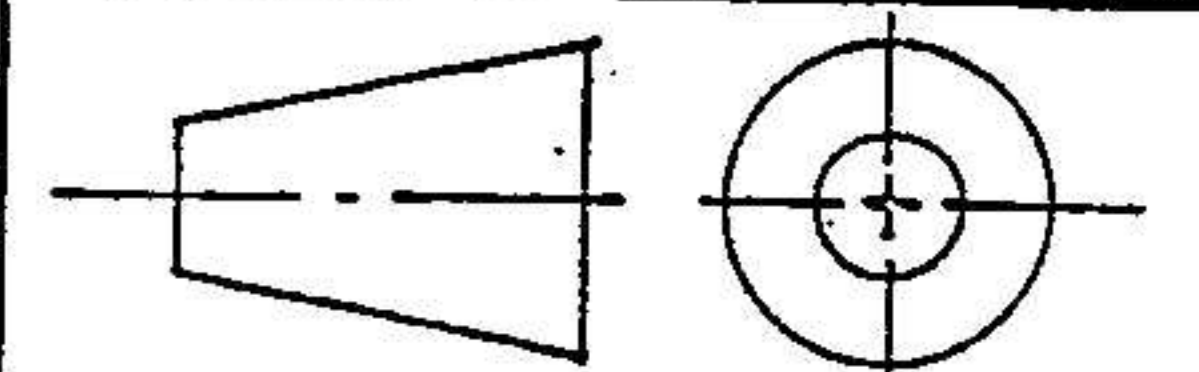
$$= 15^\circ \rightarrow$$

[2]

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ANTWOORDVEL  
ANSWER SHEET 4

VRAAG  
QUESTION 4





TEGNIËSE TEKENE  
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Vraag 5

Figuur 5 toon die vooraansig en onvoltooide boaansig van 'n ronde pyp wat 'n vierkantige prisma deurdring. Projekteer:

- 5.1 Die voltooide boaansig. 3
- 5.2 Die deurdringingskromme in die vooraansig. 8
- 5.3 Die oppervlaksontwikkeling van die hoofpyp A wat die gat toon 13

Lynwerk en netheid	1	
Totaal	25	

Question 5

Figure 5 shows the front view and incompleeted top view of a round pipe penetrating a square prism. Project:

- 5.1 The completed top view. 3
- 5.2 The curve of interpenetration in the front view. 8
- 5.3 The surface development of the main pipe A that shows the hole 13

Linework and neatness	1	
Total	25	

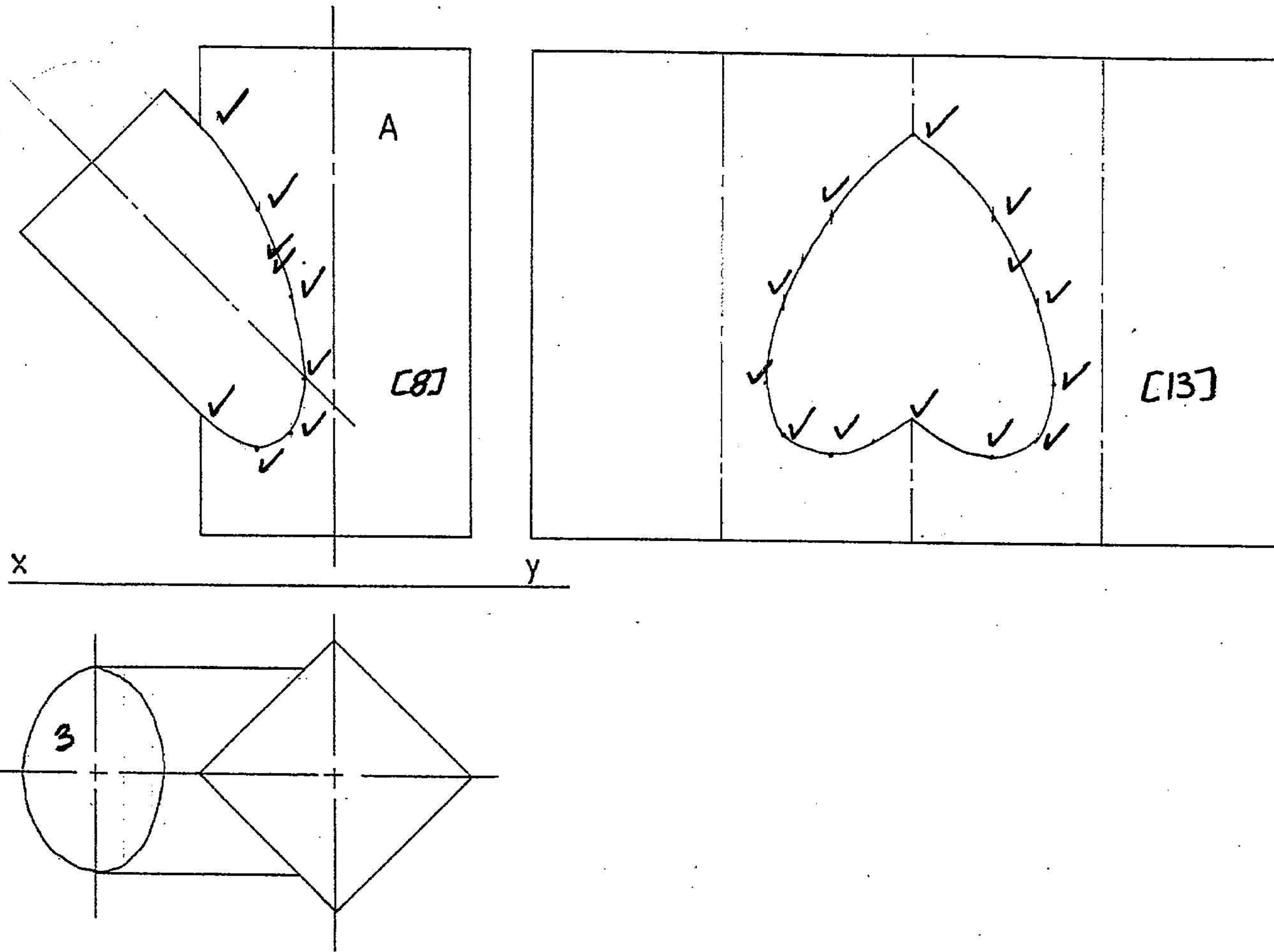
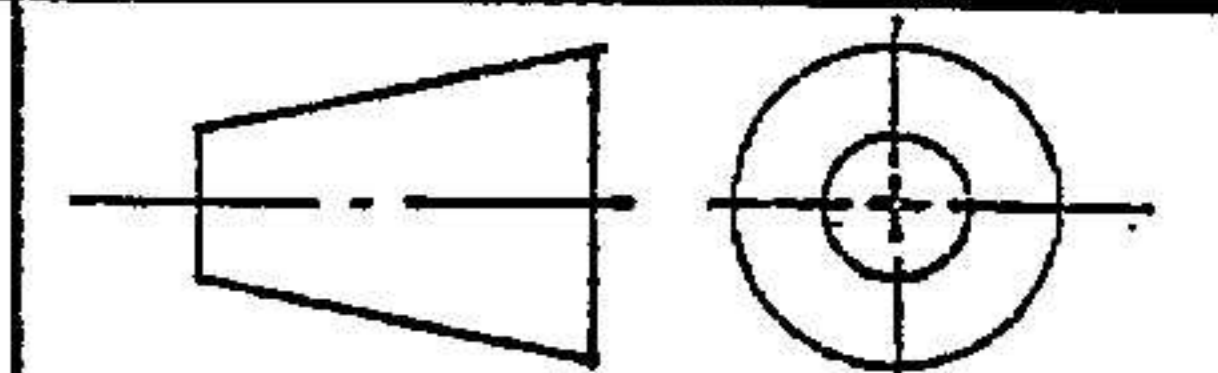


FIG. 5

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ANTWOORDVEL  
ANSWER SHEET 5

VRAAG  
QUESTION 5





TEGNESE TEKENE  
TECHNICAL DRAWING SG 711-2/1

Vraag 6

Figuur 6.1 toon die boaansig en hulpaansig van 'n vierkantige bousteen. Projekteer die deursnee vooraansig op snyvlak A-A.

15

Figuur 6.2 toon die hartlyne van 'n reëlmatige seskantige piramide. Die basis sye van die piramide is 20 mm lank en parallel met die vertikale vlak. Die toppunt is by punt B. Maak gebruik van die gegewe inligting en projekteer die vooraansig en boaansig van die piramide.

13

Lynwerk en netheid

1

Totaal

29

Question 6

Figure 6.1 shows the top view and auxiliary view of a square building block. Project a sectional front view on cutting plane A-A.

15

Figure 6.2 shows the centre lines of a regular hexagonal pyramid. The base sides are 20 mm long and parallel to the vertical plane. The apex is at point B. Make use of the given information and project the front view and top view of the pyramid.

13

Linework and neatness

1

Total

29

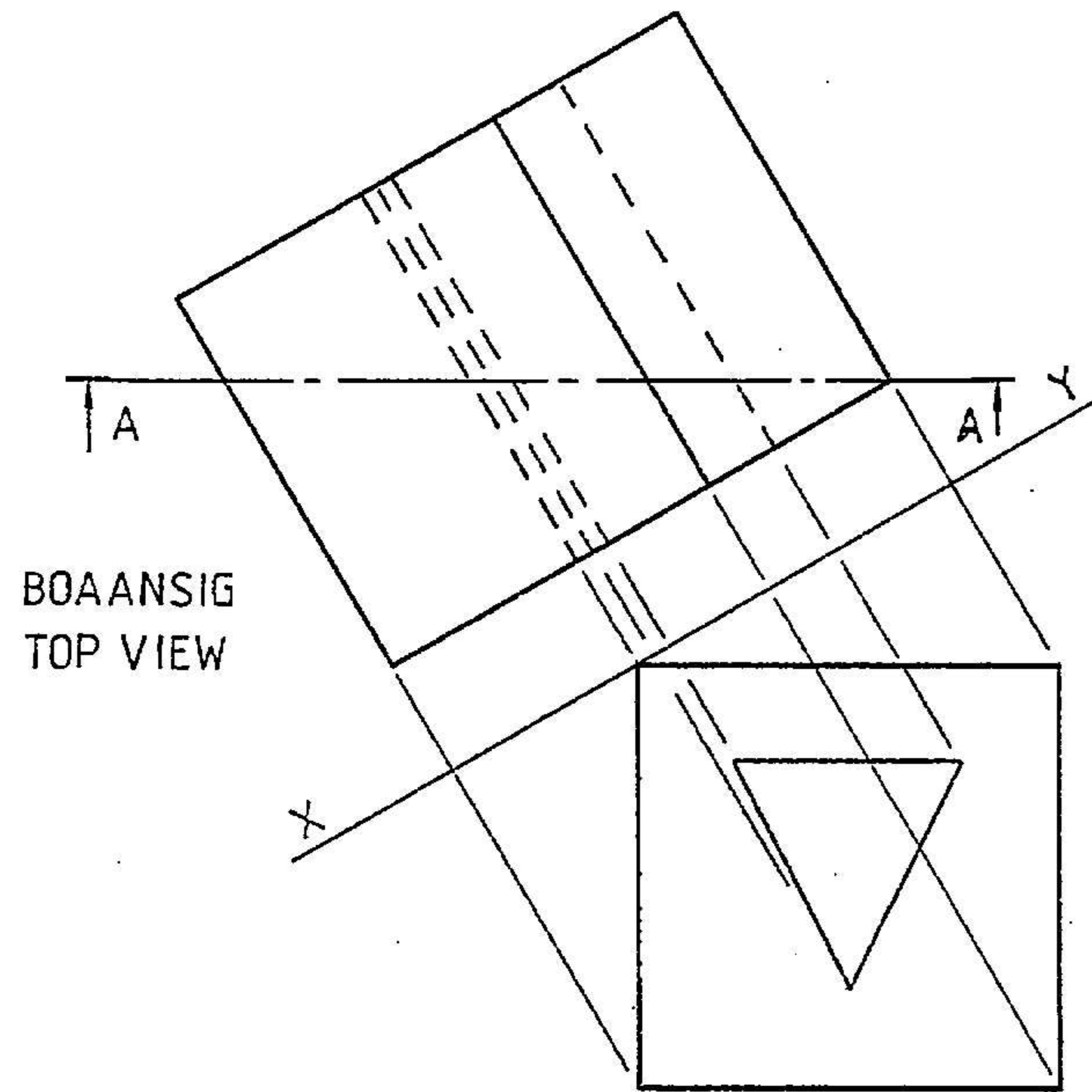
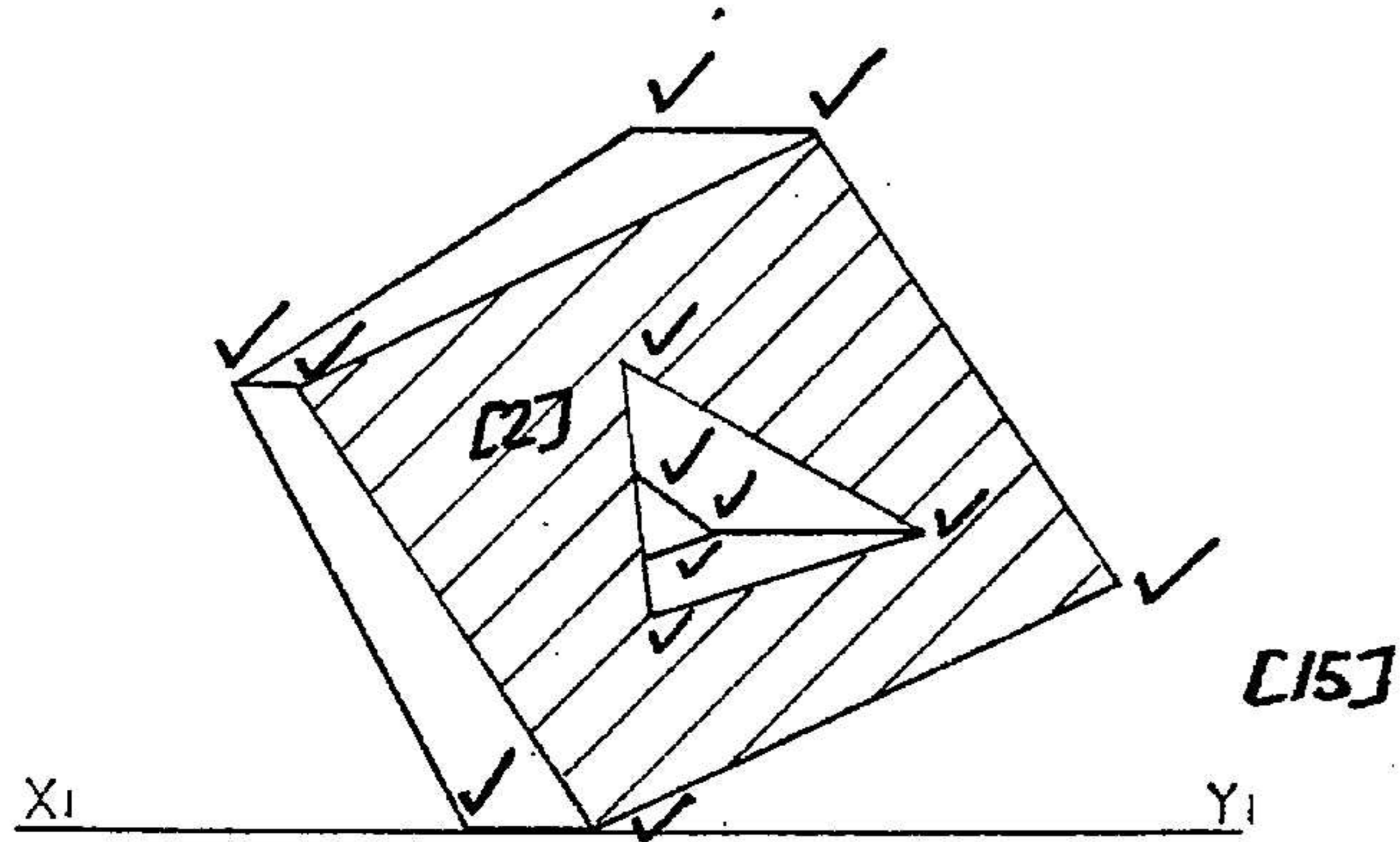


FIG. 6.1

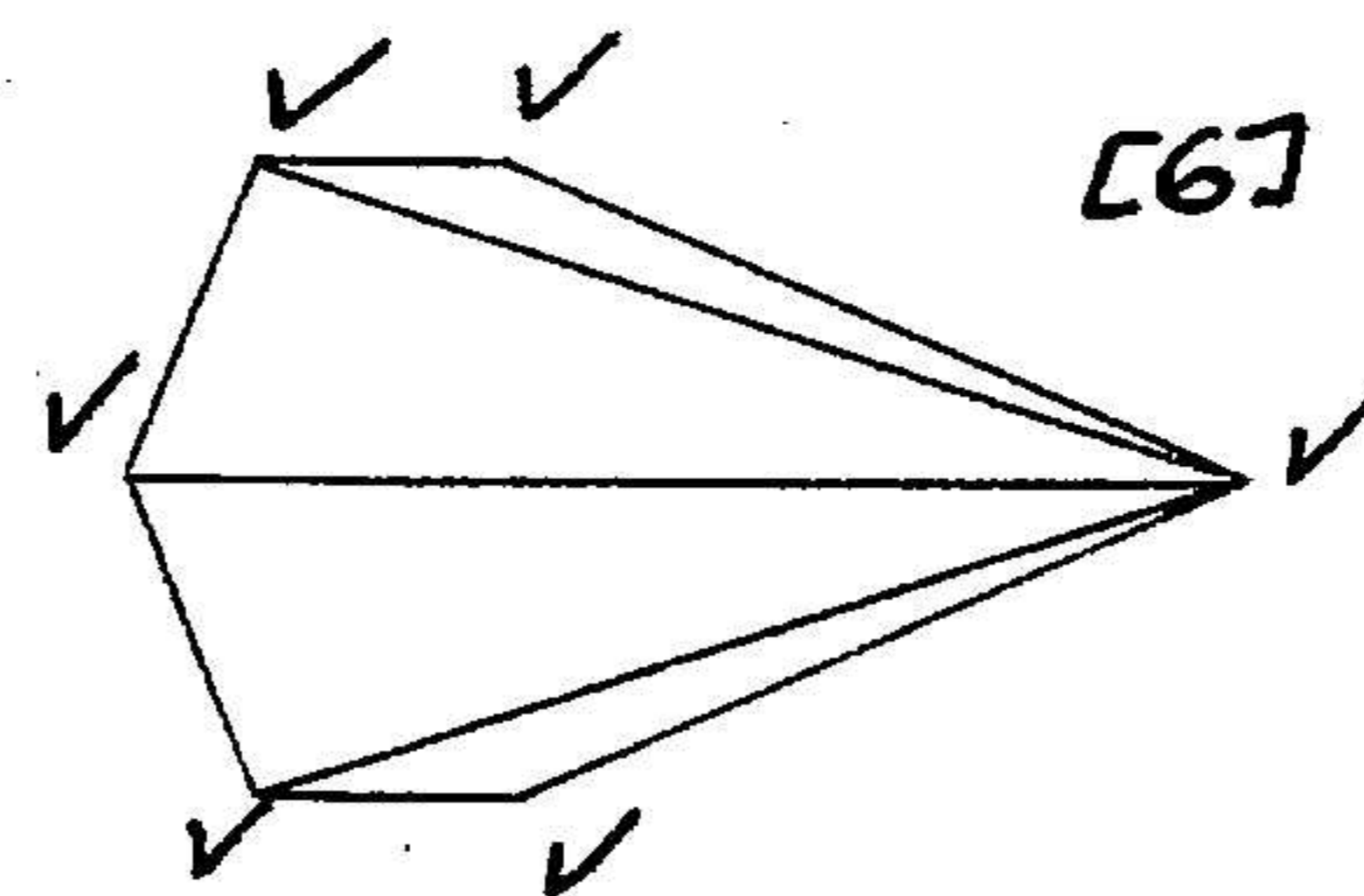
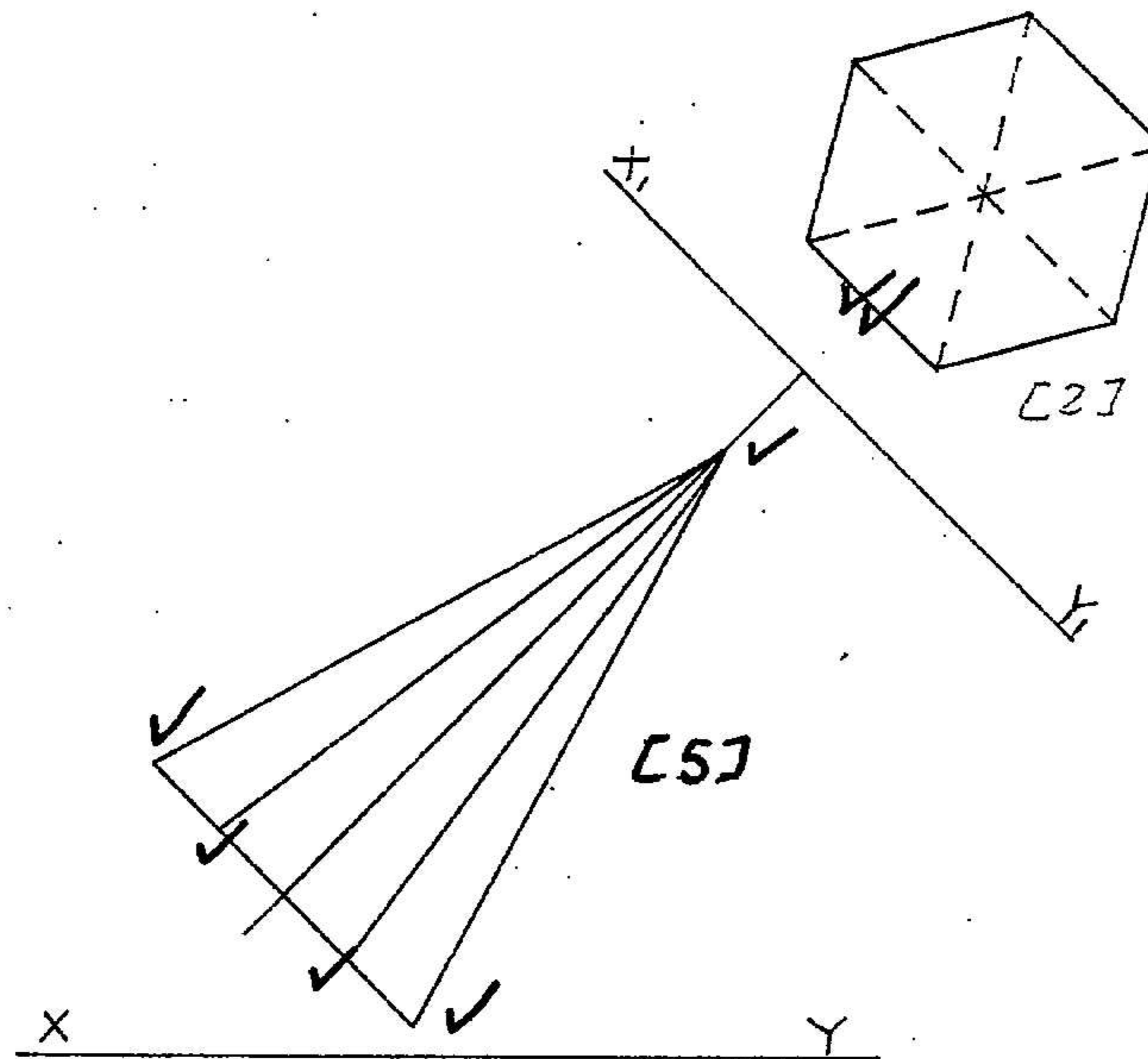


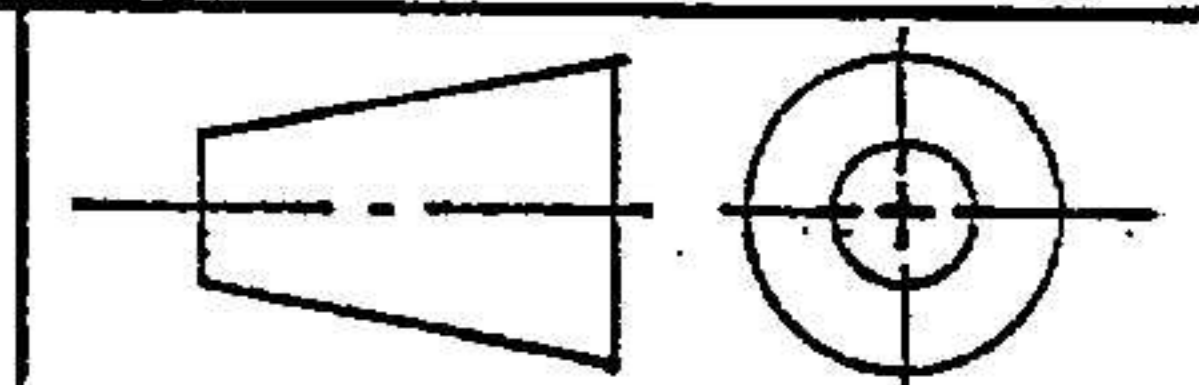
FIG. 6.2

[23]

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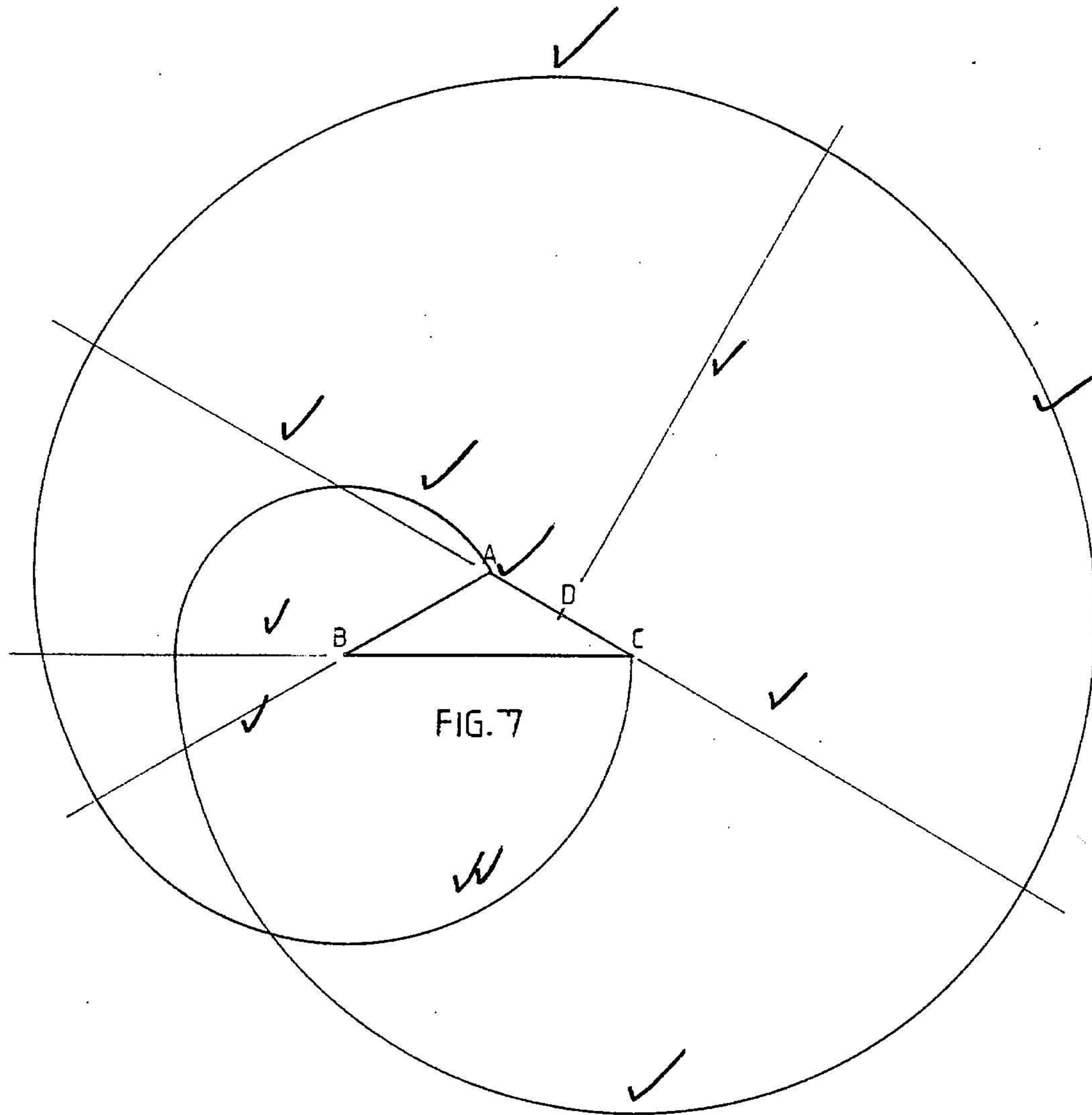
ANTWOORDVEL  
ANSWER SHEET 6

VRAAG  
QUESTION 6





TEGNIесе TEKENE  
 TECHNICAL DRAWING SG 711-2/1



Vraag 7

Figuur 7 toon 'n driehoek. 'n Toutjie met 'n onbeduidende dikte is om die driehoek vasgedraai en vasgesteek by **punt D**. Bepaal die lokus van die eindpunt van die toutjie (**punt P**) wanneer die toutjie losdraai vanaf die driehoek en daarna weer om die driehoek vasdraai.

Lynwerk en netheid

Totaal

12

1

**13**

Question 7

Figure 7 shows a triangle. A piece of string of negligible thickness is tied around the triangle and fixed at **point D**. Determine the locus described by the end of the string (**point P**) as it unwinds from the triangle and thereafter winds onto the triangle again.

Line work and neatness

Total

12

1

**13**

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ANTWOORDVEL  
 ANSWER SHEET 7

VRAAG  
 QUESTION 7

