

**GAUTENG DEPARTMENT OF EDUCATION  
GAUTENGSE DEPARTEMENT VAN ONDERWYS**

**SENIOR CERTIFICATE EXAMINATION  
SENIORSERTIFIKAAT-EKSAMEN**

**WOODWORK SG/  
HOUTWERK SG  
(Second Paper: Theory/  
Tweede Vraestel: Teorie)**

**QUESTION 1A/VRAAG 1A**

1.1	B	1.11	C	
1.2	D	1.12	B	
1.3	C	1.13	A	
1.4	B	1.14	D	
1.5	A	1.15	D	
1.6	C	1.16	A	
1.7	B	1.17	A	
1.8	A	1.18	C	
1.9	D	1.19	A	
1.10	C	1.20	A	(20)

**QUESTION 1B/VRAAG 1B**

1	D	Kiaat	<i>Kiaat</i>	
2	C	Coping saw	<i>Figuursaag</i>	
3	B	Dry conditions	<i>Droë toestande</i>	
4	A	Try square	<i>Winkelhaak</i>	
5	B	Firmer chisel	<i>Steekbeitel</i>	
6	B	Nail punch	<i>Spykerpons</i>	
7	D	Drawer construction	<i>Laaikonstruksie</i>	
8	A	Long and short shoulder mortice and tenon joint	<i>Lang- and kortskouer tap-en-gatvoeg</i>	
9	C	Tenon saw	<i>Rugsaag</i>	
10	B	Creosote	<i>Kreosoot</i>	(10)

**[30]**

## QUESTION 2/VRAAG 2

- 2.1
- |          |       |      |
|----------|-------|------|
| A - 9    | J - 3 |      |
| B - 8    | K - 4 |      |
| C - 6    | L - 1 |      |
| D - 2    | M - 3 |      |
| E - 6/11 | N - 3 |      |
| F - 3/8  | O - 2 |      |
| G - 9/10 | P - 1 |      |
| H - 2/3  | Q - 2 |      |
| I - 2    | R - 1 | (18) |
- 2.2
- 2.2.1 c – S.A. pine                                    *c – S.A.den*                                    (1)
- 2.2.2 i)        *Abundant*                                    *i)        Volop*  
           ii)        *Inexpensive*                                    *ii)        Goedkoop*                                    (2)
- 2.2.3 *Cross-cutting method*                                    *Dwarssaag of Deursneemetode*                                    (1)
- 2.2.4
- |  |  |  |
|--|--|--|
| i) <i>Easy method</i>                                  | <i>i)        Maklikste metode</i>                        |  |
| ii) <i>Cheap method</i>                                | <i>ii)       Goedkoop metode</i>                         |  |
| iii) <i>Wood dries easily.</i>                         | <i>iii)      Hout droog maklik</i>                       |  |
| iv) <i>Produces the most wood with the least waste</i> | <i>iv)       Lewer meeste hout met minste vermorsing</i> |  |
| v) <i>Quickest method</i>                              | <i>v)        Vinnigste metode</i>                        |  |
| vi) <i>Produces boards of maximum width</i>            | <i>vi)       Lewer planke van maksimum breedte</i>       |  |
- (Any 3)                                    (Enige 3)                                    (3)
- 2.3
- 2.3.1 b – Imbuia                                    *b - Imbuia*                                    (1)
- 2.3.2 Brazil                                    *Brasilië*                                    (1)
- 2.3.3
- |   |   |     |
|---|---|-----|
| i) <i><u>Stinkwood</u>: Colour varies from straw colour, trough shades of grey and brown to almost black.</i> | <i>i)        <u>Stinkhout</u>: Kleur wissel van strooikleurig, skakerings van grys en bruin tot byna swart.</i> |     |
| ii) <i><u>Imbuia</u>: Colour varies from yellow-brown to chocolate brown sometimes with black specks.</i>     | <i>ii)       <u>Imbuia</u>: Kleur wissel van geelbruin tot sjokoladebruin, soms met swart vlekke.</i>           | (2) |

## 2.4

2.4.1	<ul style="list-style-type: none"> <li>• Differences in radial and tangential shrinking</li> <li>• Incorrect stacking</li> <li>• Uneven drying</li> </ul> <p style="text-align: right;">(Any 1)</p>	<ul style="list-style-type: none"> <li>• <i>Verskille in radiale en tangensiale krimping</i></li> <li>• <i>Verkeerde stapeling</i></li> <li>• <i>Oneweredige droging</i></li> </ul> <p style="text-align: right;">(Enige 1) (1)</p>
2.4.2	Square method	<i>Vierkant metode</i> (1)
2.4.3	This is caused by strong winds that bend the tree backwards and forwards.	<i>Dit word veroorsaak deur sterk winde wat die boom heen en weer buig.</i> (1)
2.4.4	S.A. pine	<i>S.A. den</i> (1)
2.4.5	Cross-cutting method	<i>Dwarssaag- of deursneemetode</i> (1)
2.4.6	This causes tension in the wood and boards cut from a tree like this will tend to warp.	<i>Dit veroorsaak spanning in die hout en planke uit so 'n boom sal neig om krom te trek.</i> (1)
2.4.7	End grains dry more quickly than the rest of the wood.	<i>Kopkante droog vinniger as die res van die hout.</i> (1)

## 2.5

2.5.1	<u>Visual</u> strength grade	<i><u>Visuele</u> sterkte graad</i>	
2.5.2	Mechanical	<i>Meganies</i>	
2.5.3	Construction timber	<i>Konstruksie hout</i>	
2.5.4	Reject timber	<i>Uitskot hout</i>	(4)

[40]

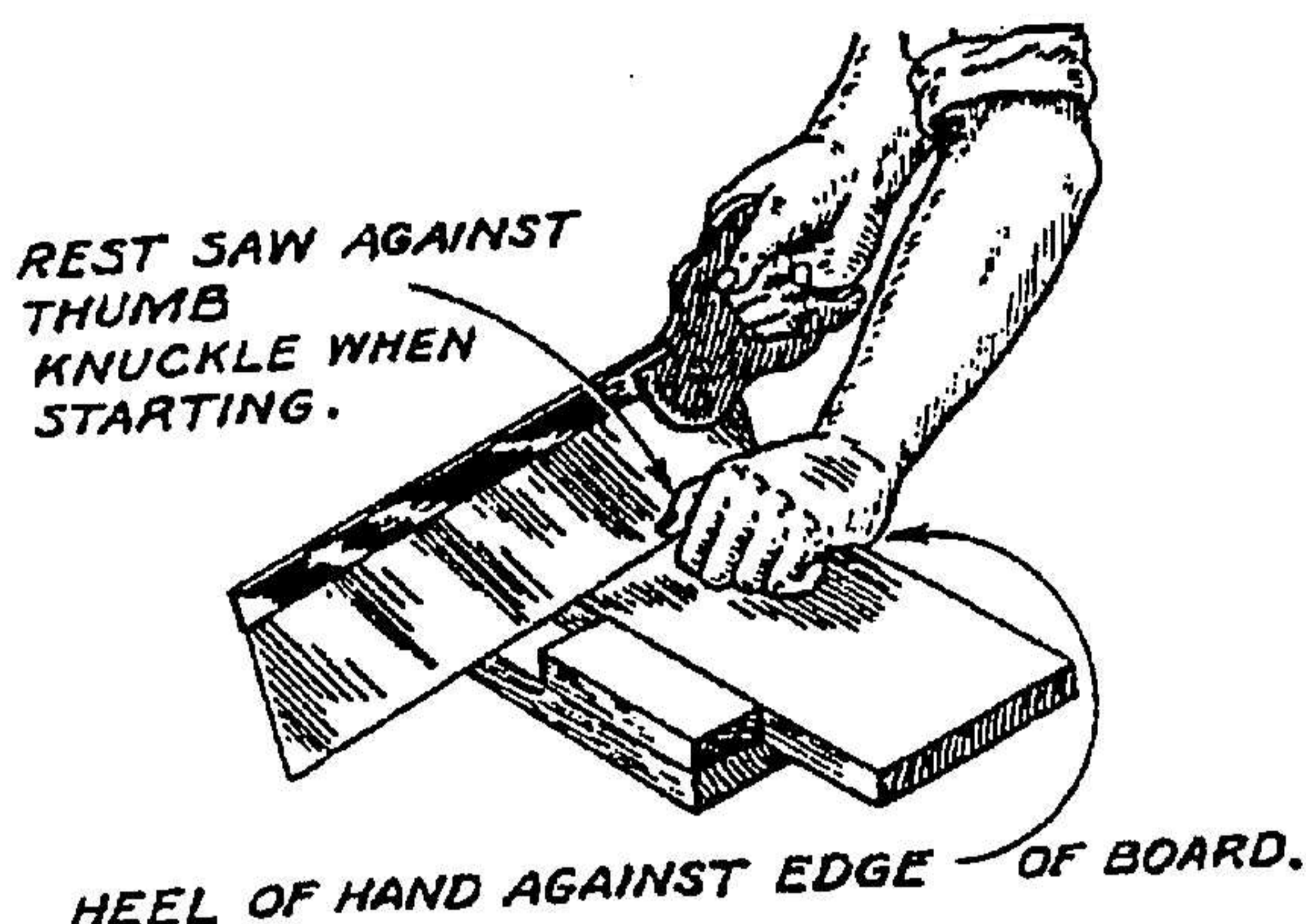
## QUESTION 3/VRAAG 3

## 3.1

i)	<u>Cross-cut saw:</u> The teeth of the cross-cut saw first score the walls of the kerf like a knife, then the edges of the teeth pare out the groove.	i)	<u>Dwarssaag:</u> <i>Die tande van die dwarssaag sny eers die kante van die saagkerf, soos 'n mes, waarna die kante van die tande die groef verder skil</i>	
ii)	<u>Rip saw:</u> The teeth of a rip saw cut like small vertical chisels – each tooth plows out a small chip.	ii)	<u>Kloofsaag:</u> <i>Die tande van die kloofsaag sny soos klein vertikale beiteltjies. Elke tand sny 'n klein stukkie.</i>	(2)

## 3.2

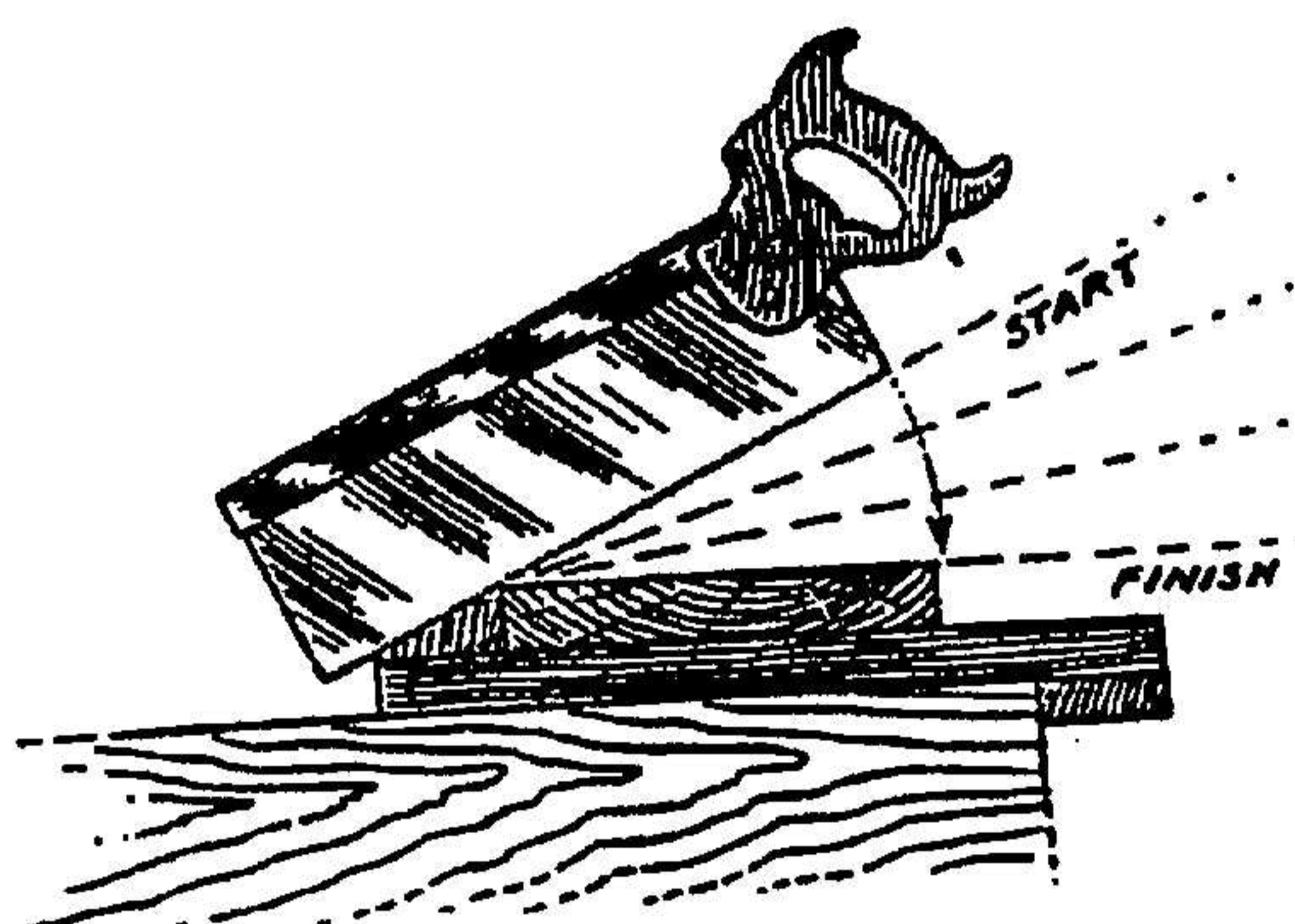
- 3.2.1 Hold the board firmly against the bench hook.



Druk plankie wat gesaag word stewig teen saagplank vas.

(1)

- 3.2.2 Lift the back end of the saw to start the cut.



Lig die agterkant van die saag om die snit te begin.

(1)

## 3.2.2 Horizontal

## Horisontaal

(1)

## 3.3

- i) Cap iron or  
ii) Cutting iron  
ii) Frog or bed  
iv) Lever cap

- i) Keerbeitel of  
ii) Skaafbeitel  
iii) Beitelbed  
iv) Knipwig

(4)

- 3.4 The cap iron should be set 0,5 – 0,8 mm behind the cutting edge of the cutting iron.

Verstel die keerbeitel 0,5 – 0,8 mm agter die snyvlak van die skaafbeitel.

(1)

- 3.5 The pinchers have a flat curved surface to pull out the nail in a rolling movement.

Die knyptang het 'n plat geboë vlak om die spyker in 'n rolbeweging uit te trek.

(2)

- 3.6 Use a piece of scrap wood under the pincers.

Plaas 'n stukkie afval hout onder die tang.

(1)

## 3.7

- |       |   |  |     |
|-------|---|--|-----|
| 3.7.1 | It will damage the wood.                    | <i>Beskadig die hout.</i>                        |     |
| 3.7.2 | It will damage the screw slot.              | <i>Beskadig skroefgleuf.</i>                     |     |
| 3.7.3 | It will not fit into the slot.              | <i>Sal nie behoorlik in skroefgleuf pas nie.</i> |     |
| 3.7.4 | It will slip out of the slot and damage it. | <i>Sal uitgly en skroefgleuf beskadig.</i>       | (4) |

## 3.8

- |       |   |   |     |
|-------|---|---|-----|
| 3.8.1 | Use steel wool (not sanding paper) to polish the metal. | <i>Gebruik staalwol (nie skuurpapier nie) om metaal blink te skuur.</i> | (1) |
| 3.8.2 | Apply a thin layer of oil or wax polish.                | <i>Wend dun lagie olie of waspolitoer aan.</i>                          | (2) |

## 3.9

- |     |                                  |                                    |      |
|-----|----------------------------------|------------------------------------|------|
| 1.  | steel ruler/try square           | <i>staal meetstok/winkelhaak</i>   |      |
| 2.  | Jointer                          | <i>vlakskaafl</i>                  |      |
| 3.  | Push block                       | <i>stootblok</i>                   |      |
| 4.  |                                  |                                    |      |
| 5.  | Try square                       | <i>winkelhaak</i>                  |      |
| 6.  | Jointer                          | <i>vlakskaafl</i>                  |      |
| 7.  |                                  |                                    |      |
| 8.  | Ruler                            | <i>meetstok</i>                    |      |
| 9.  | Thicknesser                      | <i>Dikteskaaf</i>                  |      |
| 10. | Ruler                            | <i>Meetstok</i>                    |      |
| 11. | Thicknesser                      | <i>Dikteskaaf</i>                  |      |
| 12. | Steel folding ruler/tape measure | <i>Staal vou meetstok/maatband</i> |      |
| 13. | Radial arm saw                   | <i>Bo-baansaag</i>                 | (13) |

## 3.10

- |   |   |   |     |
|---|---|---|-----|
| A | Depth adjustment crank                                | <i>Dieptestelwiel</i>   |     |
| B | Lock knob   | <i>Sluitknop</i>  |     |
| C | No adjustments must be made while the blade is moving | <i>Geen verstellings word gedoen terwyl die saaglem beweeg nie.</i> |     |
| D | Fence   | <i>Leiblok</i>  |     |
| E | Push stick  | <i>Stootplank</i>   |     |
| F | Blade guard   | <i>Lemskerm</i>   |     |
| G | Splitter  | <i>Klooflem</i>   |     |
| H | Mitre gauge   | <i>Verstekgids</i>  |     |
| I | Remove fence  | <i>Verwyder leiblok</i>   | (9) |

## 3.11

## 3.11.1

- cause:  
Knives are too high
- solution:  
Reset knives for alignment with outfeed table.

- oorsaak:  
Lemme te hoog
- oplossing:  
Verstel lemme om op te lyn met agterste tafel. (2)

## 3.11.2

- cause:  
No support
- solution:  
Use scrap block under work.

- oorsaak:  
Geen ondersteuning
- oplossing:  
Plaas afval hout onder werkstuk. (2)

## 3.11.3

- cause:  
Spur centre not seated correctly
- solution:  
Saw diagonals for spur.

- oorsaak:  
Vurksenter nie behoorlik ingebed nie
- oplossing:  
Saag diagonale lyne. (2)

## 3.11.4

- cause:  
Belt not centered. Inadequate tension.
- solution:  
Adjust drum tilting knob. Set tension.

- oorsaak:  
Band is nie gesentreerd nie. Spanning nie voldoende nie.
- oplossing:  
Verstel tromkantelknop. Stel spanning. (2)

[50]

## QUESTION 4/VRAAG 4

## 4.1

4.1.1 Rubbed joint

Vryflas

4.1.2 Tongue and groove  
Feather and groove  
Rebate joint  
F-joint  
Dwelled joint  
Slot and screw joint

Tong-en-groeflas  
Veer-en-groeflas  
Sponninglas  
F-las  
Houtpenlas  
Gleuf-en-skroeflas

(Any 1)

(Enige 1)

4.1.3 Tongue and groove with beading

Tong-en-groef met kraal

4.1.4 Corrugated metal strips/staples

Riffelplaat/krammetjies

4.1.5 Slot and screw joint

Gleuf-en-skroeflas

(5)

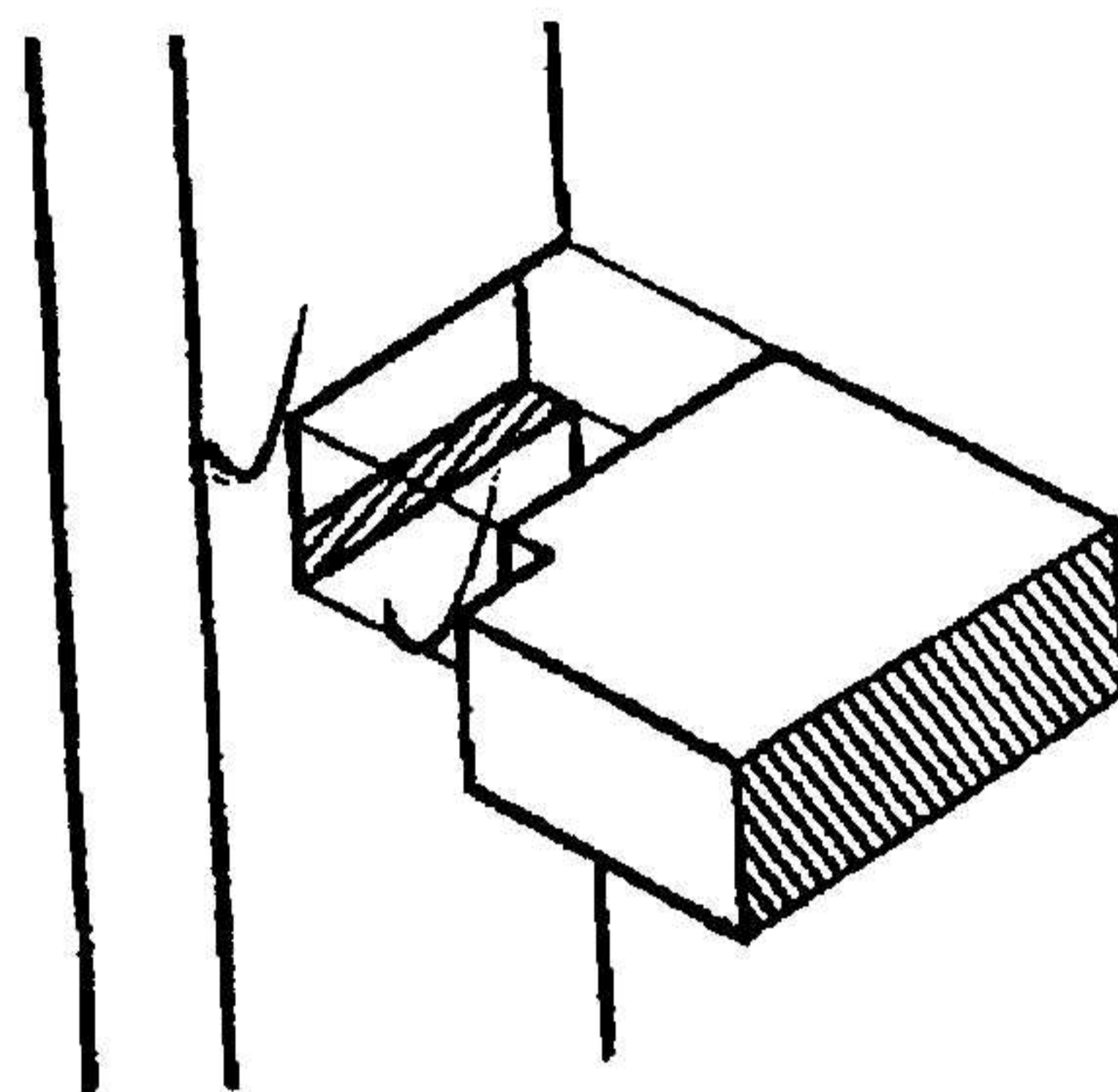
4.2

4.2.1 B (1)

4.2.2 Provision should be made for wood that expands and contracts constantly. *Voorsiening moet gemaak word vir hout wat voortdurend uitsit en inkrimp.* (2)

4.3

4.3.1



(2)

4.3.2 Stopped housed joint *Versteekte inkeepvoeg (blinde)* (1)

4.3.3

- Shelves
- Partitions in cabinets and bookshelves
- Ladders
- Steps

(Any 2)

- *Rakke*
- *Afskortings in kabinette en boekrakke*
- *Lere*
- *Trappe*

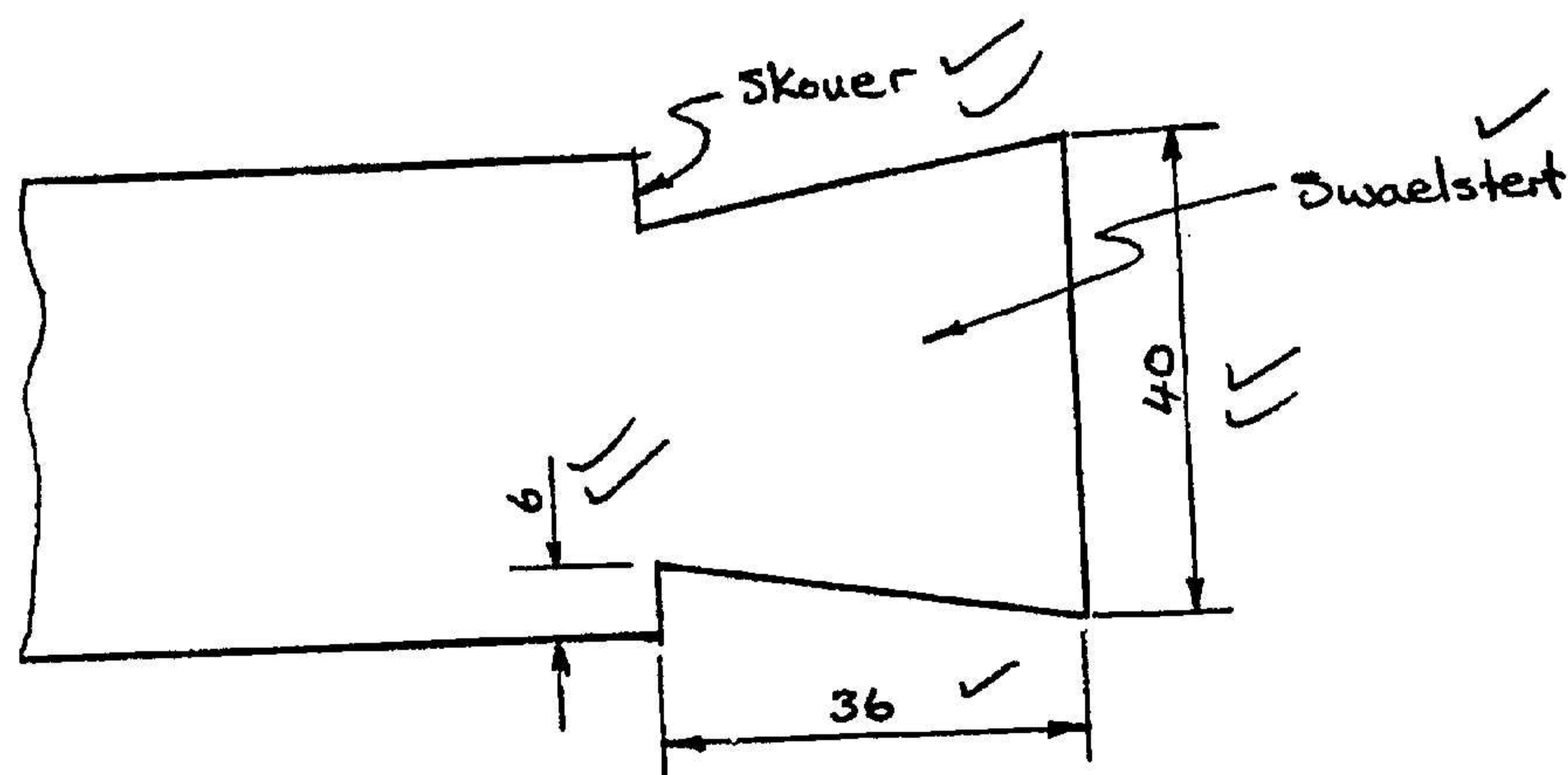
(Enige 2)

(2)

4.3.4 Sketch *Skets* (2)

4.4

4.4.1



(3)

- 4.4.2
- |      |                                       |      |   |     |
|------|---------------------------------------|------|---|-----|
| i)   | Measuring and marking of dovetail (A) | i)   | <i>Uitmeet en merk van swaelstert (A)</i>     |     |
| ii)  | Cut dovetail to form.                 | ii)  | <i>Uitsaag van swaelstert</i>                 |     |
| iii) | Marking of dovetail seat (socket) (B) | iii) | <i>Afmerk van swaelstert bedding (B)</i>      |     |
| iv)  | Work seat to final fitting            | iv)  | <i>Uitwerk van bedding tot finale passing</i> | (4) |

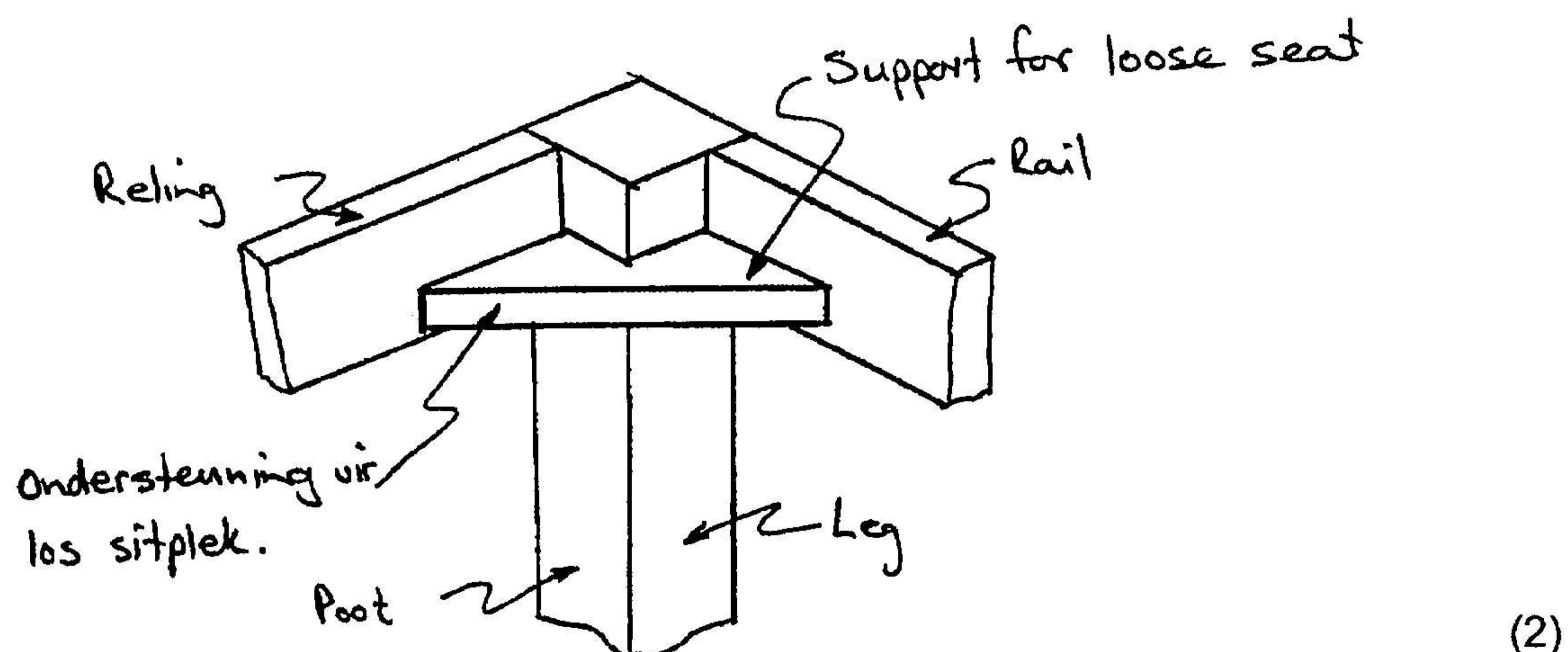
- 4.4.3
- |    |           |    |                   |     |
|----|-----------|----|-------------------|-----|
| a) | Soft wood | a) | <i>Sagte hout</i> | (1) |
| b) | Hard wood | b) | <i>Harde hout</i> | (1) |

- 4.4.4
- |  |   |     |
|--|---|-----|
| To compensate for weaker soft woods the slopes of the dovetail are bigger than those for hard woods. | <i>Om te kompenseer vir swakker sagte hout is die skuinste van die swaelstert groter as dié vir harde hout.</i> | (2) |
|--|---|-----|

## 4.5

- 4.5.1
- |   |   |     |
|---|---|-----|
| a | 5 |     |
| b | 3 |     |
| c | 4 |     |
| d | 6 |     |
| e | 6 | (5) |

## 4.5.2



## 4.6

- 4.6.1
- |    |  |    |   |           |     |
|----|--|----|---|-----------|-----|
| a) | Butt joint<br>Rebate joint<br>Tongue and groove joint<br>(Any 1) | a) | <i>Stuikvoeg<br/>Sponningvoeg<br/>Tong-en-groefvoeg</i> | (Enige 1) | (1) |
|----|--|----|---|-----------|-----|

- |    |                       |    |                                 |     |
|----|-----------------------|----|---------------------------------|-----|
| b) | Screw from the inside | b) | <i>Skroef van die binnekant</i> | (1) |
|----|-----------------------|----|---------------------------------|-----|

- 4.6.2
- |    |                       |    |                             |     |
|----|-----------------------|----|-----------------------------|-----|
| a) | Drawer dovetail joint | a) | <i>Laai swaelstert voeg</i> | (1) |
|----|-----------------------|----|-----------------------------|-----|

- |    |                         |    |                          |     |
|----|-------------------------|----|--------------------------|-----|
| b) | Tongue and groove joint | b) | <i>Tong-en-groefvoeg</i> | (1) |
|----|-------------------------|----|--------------------------|-----|



4.7

- 4.7.1 A. Drawer guide (runner) A. *Laaigids (leier)*  
 B. Kicker B. *Laai bobaan* (2)
- 4.7.2 Keep drawer in position. *Hou laai in posisie, voorkom dat laai kantel*  
 Prevent drawer from tilting when *wanneer uitgetrek word.*  
 pulling out. (1)  
 [40]

## QUESTION 5/VRAAG 5

5.1

5.1.1

- a) i) Financial circumstances of the community a) i) *Finansiële omstandighede van die gemeenskap*  
 ii) Culture ii) *Kultuur*  
 iii) Historical events iii) *Geskiedkundige gebeure*  
 iv) Available material iv) *Beskikbare materiaal*  
 v) Expertise v) *Vakkundigheid*  
 (Any 4) (Enige 4) (4)
- b) i) Functionality: b) i) Funksionaliteit:  
 Purpose – to give comfortable seating. Due to *Doel – verskaf gemaklike sitplek.*  
 circumstances it has to be *Weens omstandighede moet stoel*  
 collapsible to put away. *kan opvou en weg gesit word.* (2)
- ii) Appearance: ii) Voorkoms:  
 Harmony between *Harmonie tussen afmetings en*  
 measurements and form *vorm word gehandhaaf.* (2)  
 has been maintained.
- iii) Materiaal: iii) Materiaal:  
 The campstool had to *Die kampstoeltjie moet slytasie*  
 withstand wear and tear. *kan weerstaan. Inheemse*  
 Indigenous hard woods *hardehoutsoorte soos stinkhout,*  
 such as stinkwood, *swarthout en kiaat is gebruik.* (2)  
 blackwood and kiaat were used.
- iv) Construction: iv) Konstruksie:  
 Only hand tools were *Slegs handgereedskap was*  
 available. *beskikbaar.*  
 Simple construction *Eenvoudige konstruksiemetodes*  
 methods (joints) were *(voeë) is gebruik.* (2)  
 used.

- |                    |         |                        |               |
|--------------------|---------|------------------------|---------------|
| c) i) Rope         |         | c) i) <i>Tou</i>       |               |
| ii) Sail-cloth     |         | ii) <i>Seildoek</i>    |               |
| iii) Wooden strips |         | iii) <i>Houtstroke</i> |               |
|                    | (Any 1) |                        | (Enige 1) (2) |
| d) 300 – 400 mm    |         | d) 300 – 400 mm        | (2)           |

## 5.1.2

- |   |         |   |               |
|---|---------|---|---------------|
| 1. Mass production  |         | 1. <i>Massaproduksie</i>  |               |
| 2. Use of machines in the<br>manufactory process            |         | 2. <i>Masjienvervaardig</i>   |               |
| 3. Profit-seeking   |         | 3. <i>Winsmotief</i>  |               |
| 4. Sometimes lack of<br>craftsmanship                       |         | 4. <i>Soms gebrek aan vakmanskap</i>                                |               |
| 5. Set back legs  |         | 5. <i>Teruggesette voetstukke</i>                                   |               |
| 6. Increasing use of veneer and<br>fibre board combinations |         | 6. <i>Toenemende gebruik van fineer en<br/>veselbordkombinasies</i> |               |
| 7. Lack of wood carving                                     |         | 7. <i>Gebrek aan houtsneewerk</i>                                   |               |
| 8. Similarity   |         | 8. <i>Eendersheid</i>   |               |
| 9. Fewer extended parts or<br>edges to collect dust         |         | 9. <i>Min uitstekende dele of rante wat stof<br/>kan vergaar</i>    |               |
| 10. Formed plywood  |         | 10. <i>Gevormde laaghout</i>  |               |
| 11. Spray painted finish                                    |         | 11. <i>Sproeispuut afwerking</i>                                    |               |
| 12. Synthetic upholstery                                    |         | 12. <i>Sintetiese bekleedse</i>                                     |               |
| 13. Synthetic varnishes                                     |         | 13. <i>Sintetiese vernisse</i>                                      |               |
| 14. Copied earlier styles                                   |         | 14. <i>Nagemaakte vroeëre style</i>                                 |               |
|   | (Any 6) |   | (Enige 6) (6) |

## 5.2

- |  |  |  |     |
|--|--|--|-----|
| 5.2.1 To make timber more resistant<br>to the different damaging<br>factors, various preservatives<br>may be applied to make the<br>timber more durable. |  | <i>Om hout meer bestand te maak teen die<br/>verkillende beskadigingsfaktore, word<br/>verskillende preserveermiddels<br/>aangewend om die hout meer duursaam<br/>te maak.</i> | (2) |
|--|--|--|-----|

## 5.2.2

Easily be absorbed by the wood	<i>Maklik deur die hout geabsorbeer word</i>	
Be cheap and readily available	<i>Goedkoop en maklik verkrybaar wees</i>	
Be poisonous and/or repel the organisms attacking the wood	<i>Giftig en/of afwerend wees vir houtvernietigende faktore</i>	
Not be harmful to humans and animals	<i>Nie nadelig vir mens en dier wees nie</i>	
Not easily macerate or evaporate	<i>Nie maklik uitloog of verdamp nie</i>	
Not corrode metal		
Not reduce the strength of the wood	<i>Nie nadelig met metale reageer nie</i>	
Not have an unpleasant smell	<i>Nie die hout verswak nie</i>	
Not spoil the natural beauty of the wood	<i>Nie onaangenaam ruik nie</i>	
Not give the wood a resistance to paint, varnish, glue, etc.	<i>Nie die natuurlike voorkoms van die hout verander nie</i>	
Not make the wood more flammable	<i>Nie die hout 'n weerstand gee teen verf, vernis, lym, ens. nie</i>	
	<i>Nie die ontvlambaarheid van die hout verhoog nie</i>	
(Any 6)		(Enige 6) (6)

## 5.2.3

i) Coal tar creosotes	<i>i) Koolteer kreosote</i>	
ii) Aqueous solutions of metallic salts	<i>ii) Wateroplossings met metaalsoute</i>	
iii) Solutions in volatile organic solvents	<i>ii) Oplossings in vlugtige organiese oplosmiddels</i>	(3)

5.2.4 Full-cell pressure process	<i>Volseeldrukproses</i>	(1)
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## 5.3

5.3.1 Remove all pencil, glue and other marks. Sand wood to a smooth surface.	<i>Verwyder alle potlood, lym en ander merke en skuur hout glad.</i>	(2)
5.3.2 Apply a woodsealer or dilute the protective coating to be used.	<i>Wend 'n seëllaar aan of verdun die bedekkingsmiddel.</i>	(2)
5.3.3 The wood surface should be sanded to a smooth surface between every layer of protective coating.	<i>Tussen elke laag bedekkingsmiddel moet hout glad geskuur word.</i>	(2)

[40]

TOTAL/TOTAAL 200÷2 100

END / EINDE