



Province of the
EASTERN CAPE
EDUCATION

**NATIONAL
SENIOR CERTIFICATE**

GRADE 11

NOVEMBER 2020

**CIVIL TECHNOLOGY: WOODWORKING
MARKING GUIDELINE
(EXEMPLAR)**

MARKS: 200

This marking guideline consists of 15 pages.

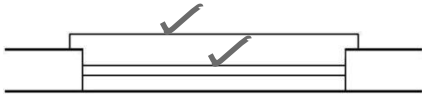
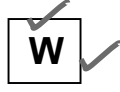

QUESTION 1: SAFETY AND MATERIALS (GENERIC)

- 1.1 Hard hat (1)
- 1.2 A tie can get stuck in the moving parts and cause injuries (1)
- 1.3 1.3.1 False (1)
- 1.3.2 False (1)
- 1.3.3 True (1)
- 1.3.4 True (1)
- 1.4 Storing of materials on site.
- 1.4.1 Any ONE area on which materials can be placed:
 - Shelves
 - Pallets (1 x 1) (1)
- 1.4.2 Any ONE reason why heaps of sand and stone be covered with plastic:
 - To keep it clean
 - To prevent wash away during rainfalls
(Similar answer) (1 x 1) (1)
- 1.4.3 To prevent the materials from mixing. (1)
- 1.5 $1\ 800\ \text{mm} \div 3\ (1) = 600\ \text{mm}\ (1)$ (2)
- 1.6 Reinforced concrete contains steel reinforcement bars. (1)
- 1.7 Any ONE purpose of coarse aggregate in a concrete mixture:
 - Provides volume stability to the concrete
 - Economical – forms the bulk of the mixture
 - Lower the shrinkage potential of the concrete (1 x 1) (1)
- 1.8 Lime (1)
- 1.9 Screed (1)
- 1.10 Hardwood (1) and softwood (1) (2)
- 1.11 Any ONE use of plywood:
 - Bottoms of drawers
 - Wall panelling
 - Door panels
 - Cupboard panels
 - Interior balustrades / railings
 - Framing (1 x 1) (1)

- 1.12 1.12.1 Non-ferrous metal (1)
- 1.12.2 Ferrous metal (1)
- 1.13 Any ONE use of lead in the building environment:
- Batteries
 - Cable sheaths
 - Lead pipes
- (Similar answer) (1 x 1) (1)
- 1.14 Any ONE use of stainless steel in the building environment:
- Sinks
 - Wash tubs / baths
 - Water taps
 - Water traps
 - Extractor fans
 - Similar answer (1)
- 1.15
- Dry-fit the parts to make sure the pipes are fitted in the right direction (1)
 - Apply a light coat of PVC glue to the fitting and the pipe (1)
 - Slightly twist and push parts into position (1) (3)
- 1.16 3 mm (1)
- 1.17 Any TWO uses of translucent glass:
- Bathroom / toilet windowpanes
 - Glass bricks for walls
 - Doors
 - Urban furniture and appliances (2 x 1) (2)
- 1.18 Thermoplastic (1) and thermosetting plastic (1) (2)
- [30]**


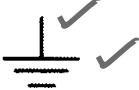

QUESTION 2: EQUIPMENT, TOOLS AND GRAPHICS (GENERIC)

- 2.1 Prevent rust. (1)
- 2.2 Cold chisel is used to cut holes / grooves in concrete / brickwork / metal (1)
Bolster is used to cut tricks (1) (2)
- 2.3 Name the tools in FIGURES 2.3.1 to 2.3.3 and name ONE use of each.
- 2.3.1 Pick (1)
- Any ONE use (1):
- Loosening hard ground during excavations
 - Breaking up rock (2)
- 2.3.2 Block brush (1)
- Any ONE use (1):
- Moistening plaster
 - Dampening surfaces / concrete (2)
- 2.3.3 Plane (1)
- Any ONE use (1):
- Planing timber
 - Smoothing rough surfaces on timber (2)
- 2.4 2.4.1 Spirit level (1)
- 2.4.2 (1) Test if the head is horizontal and (2) if the stiles are installed vertically. (2)
- 2.4.3 Any TWO precautions for the spirit level:
- Wipe clean after use
 - Not allow plaster / cement to dry on it
 - Store in a dry place (2 x 1) (2)
- 2.5 2.5.1 Portable circular saw (1)
- 2.5.2 Any TWO uses:
- Cutting wood
 - Cutting other materials with specific blades
 - Cutting rebates (2 x 1) (2)
- 2.6 2.6.1 To include more information (1)
- 2.6.2 (1) To highlight details that (2) may not be clearly understood (2)
- 2.6.3 Open eave (1)

- 2.6.4 A – DPC (1)
B – Beam filling / halfbrick wall (1)
C – Facia board / plank (1)
D – Singlebrick wall (1)
E – Ceiling / cornice (1) (5)
- 2.6.5 Prevents dust / vermin / etc. from entering underneath the roof (1)
- 2.6.6 Fixing gutters (1)
- 2.7 To ensure that the horizontal and vertical external measurements (1)
correspond with the individually internal measurements (1) (2)
- 2.8 (1) Bottom on the right-hand side of drawing sheet (1) (2)
- 2.9 1 : 100 (1)
- 2.10 2.10.1 Natural ground level (1)
- 2.10.2 Finished floor level (1)
- 2.11 2.11.1  (2)
- 2.11.2  (2)
- 2.11.3  (1)

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QUESTION 3: QUANTITIES, JOINING AND GRAPHICS (GENERIC)

- 3.1 3.1.1 Site plan (1)
- 3.1.2 123 (1)
- 3.1.3 Boundary wall (1)
- 3.1.4 B – Manhole C – Rodding eye (2)
- 3.2 ONE use of PVC glue:
 • To bond PVC pipes (1)
- 3.3 PVC adhesive (1)
- 3.4 3.4.1  (2)
- 3.4.2  (2)
- 3.4.3  (2)
- 3.5 The application steps for PVA adhesive:
 (1) Dry-fit parts to make sure the pipes are fitted in the right direction
 (2) Apply a light coat of PVC glue to the fitting and the pipe
 (3) Slightly twist and push parts into position (3)
- 3.6 Any THREE precautions when using contact glue:
 • Be careful not to allow the adhesive to dry fully before assembly
 • Do not wait too long before assembling the parts
 • The glue should not be applied too quickly (3 x 1) (3)
- 3.7 Any FIVE uses of silicone:
 • Basic sealant against air and water leakage
 • Textile uses
 • Enhances materials
 • Used in aviation
 • Construction repairs
 • Electronics (5 x 1) (5)

3.8 Any TWO properties of EACH of the following adhesives

3.8.1 Silicone

- Heat resistant
- Conductive or insulating
- Rubbery
- Low heat conductivity
- Resist chemicals / low chemical reaction
- Low toxicity
- Waterproof / repels water (2 x 1) (2)

3.8.2 Contact glue

- Adheres well to most materials (plastics, rubber, paper, wood, etc.)
- Sticks to most non-porous materials
- Rubbery and has a creamy colour
- Flammable
- Water-resistant
- Dries quickly and adheres / sticks immediately (2 x 1) (2)

3.8.3 PVA glue

- Water-based
- For interior and exterior use
- White or yellowish colour before it dries, clear when dry
- Yellow PVA is not completely clear on drying
- Super strong when used on wood
- Dries quickly
- Inexpensive (2 x 1) (2)

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QUESTION 4: CASEMENTS, GRAPHICS, TOOLS AND EQUIPMENT, DOORS AND WALL PANELLING (SPECIFIC)

4.1 ANSWER SHEET 1 (14)

4.2 4.2.1

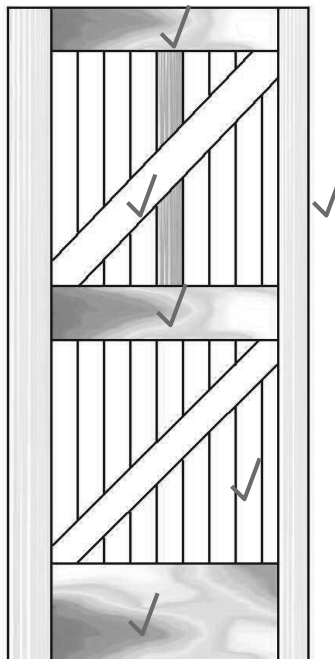
- Transom ✓
- Bottom rail of fanlight ✓
- Top rail of casement ✓

(3)

4.2.2 Dripgroove ✓ (1)

4.3 ANSWER SHEET 2 (6)

4.4 Framed ledged and braced batten door

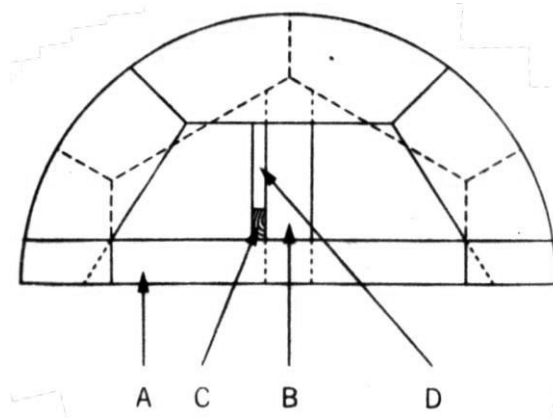


(6)
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QUESTION 5: CENTERING, FORMWORK, SHORING AND MATERIALS (SPECIFIC)

- 5.1 5.1.1 A – Vertical clamps B – Yoke or collar
C – Plywood D – Laggings (4)
- 5.1.2 To hold the formwork in place or to tighten the formwork (1)
- 5.1.3
- Can't be used for long
 - If timber is dry, it will absorb moisture from the wet concrete which could weaken the resultant concrete member
 - Wet concrete will shrink and cup leading to open joints and leakage (2 x 1) (2)
- 5.1.4
- Manufactured in big boards
 - Makes it ideal for the sides of formwork because it can be cut into different sizes (2 x 1) (2)
- 5.2 5.2.1
- Are placed at an angle against walls to provide temporary support
 - To support leaning or unstable walls
 - Transferring weight to the ground or to other supporting members (Any 1) (1)
- 5.2.2
- Temporary horizontal support to two parallel walls
 - Where one of the walls tends to lean or show signs of failure
 - Between gable walls of adjacent buildings when an intermediate building must be demolished or work has to be done on the foundations of an adjacent building (Any 1) (1)
- 5.3 5.3.1 It receives the load that is transferred both vertically and horizontally and distributes it into the ground. (1)
- 5.3.2 Transfers the horizontal and vertical load exerted on the wall plate to the sole plate. (1)
- 5.4 5.4.1 A – Ties B – Horizontal brace
C – Diagonal brace D – Strut (4)
- 5.4.2 To prevent the opposite ends of the ribs from moving apart under the weight of the arch. (1)
- 5.4.3
- To join the outside and inside ribs
 - Keeps the centre square and increases its rigidity (2)

5.5



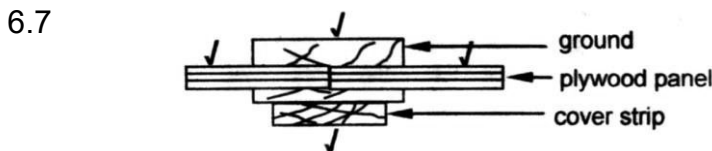
A – Tie B – Strut C – Horizontal brace D – Diagonal brace (Any 2) (5)

5.6 A – Laggings
 B – Rib
 C – Strut
 D – Tie
 E – Bearer

(5)
[30]

QUESTION 6: SHORING, JOINING, QUANTITIES, WALL PANELLING, CUPBOARDS AND IRONMONGERY (SPECIFIC)

- 6.1 6.1.1 False (1)
- 6.1 6.1.2 False (1)
- 6.1 6.1.3 True (1)
- 6.1 6.1.4 True (1)
- 6.2 6.2.1 A – Rising butt hinge (1)
- 6.2 6.2.2 B – Parliament hinge (1)
- 6.2 6.2.3 C – Strap hinge (1)
- 6.3 It is there to cover the joint between the wall and the ceiling (1)
- 6.4 Cornice for long walls = 2 x 5 m = 10 m
Cornice for short walls = 2 x 3 m = 6 m
Total length of cornices = 10 + 6 = 16 m (4)
- 6.5 6.5.1 Parliament hinge (1)
- 6.5 6.5.2 Flush bolts or barrel bolts (1)
- 6.6 ANSWER SHEET 3 (6)



(Any part x 1) (5)

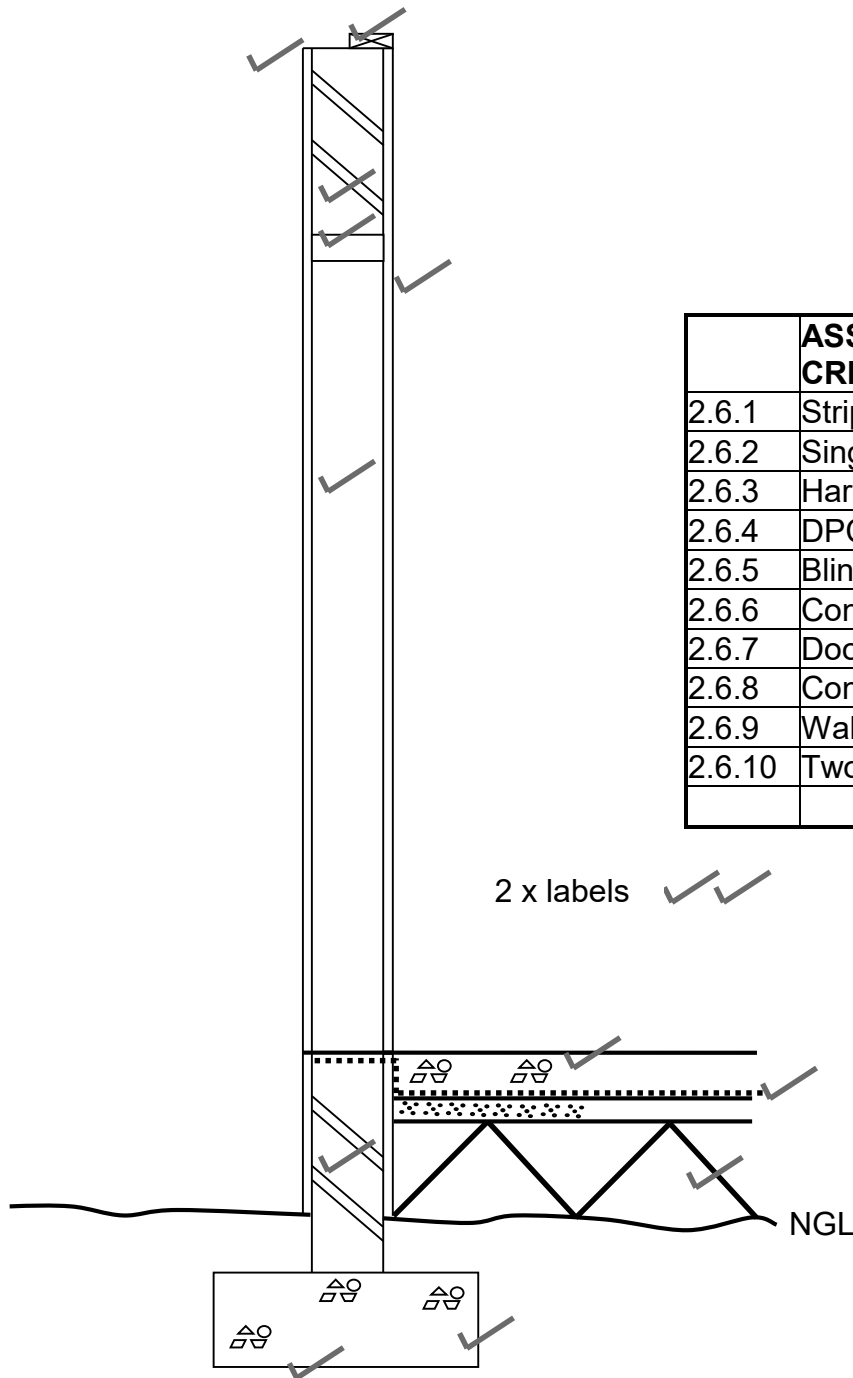
- 6.8
 - Plywood
 - Block board
 - Hardboard/Masonite(3)
- 6.9 Volume of concrete = $l \times b \times h$
= 28 m x 0,45 m x 0,15 m
= 1,89 m³ (5)
- 6.10 ANSWER SHEET 4 (7)

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ANSWER SHEET 1	CIVIL TECHNOLOGY WOODWORK	NAME: _____
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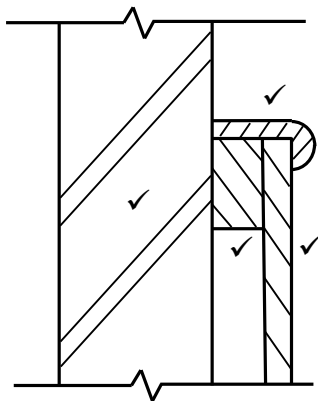
4.1



	ASSESSMENT CRITERIA	MARK
2.6.1	Strip foundation	2
2.6.2	Single brick wall	3
2.6.3	Hardcore filling	1
2.6.4	DPC	1
2.6.5	Blinding layer	1
2.6.6	Concrete floor	1
2.6.7	Door opening	1
2.6.8	Concrete lintel	1
2.6.9	Wall plate	1
2.6.10	Two labels	2
TOTAL:		14

ANSWER SHEET 2	CIVIL TECHNOLOGY WOODWORKING	NAME: _____

4.3



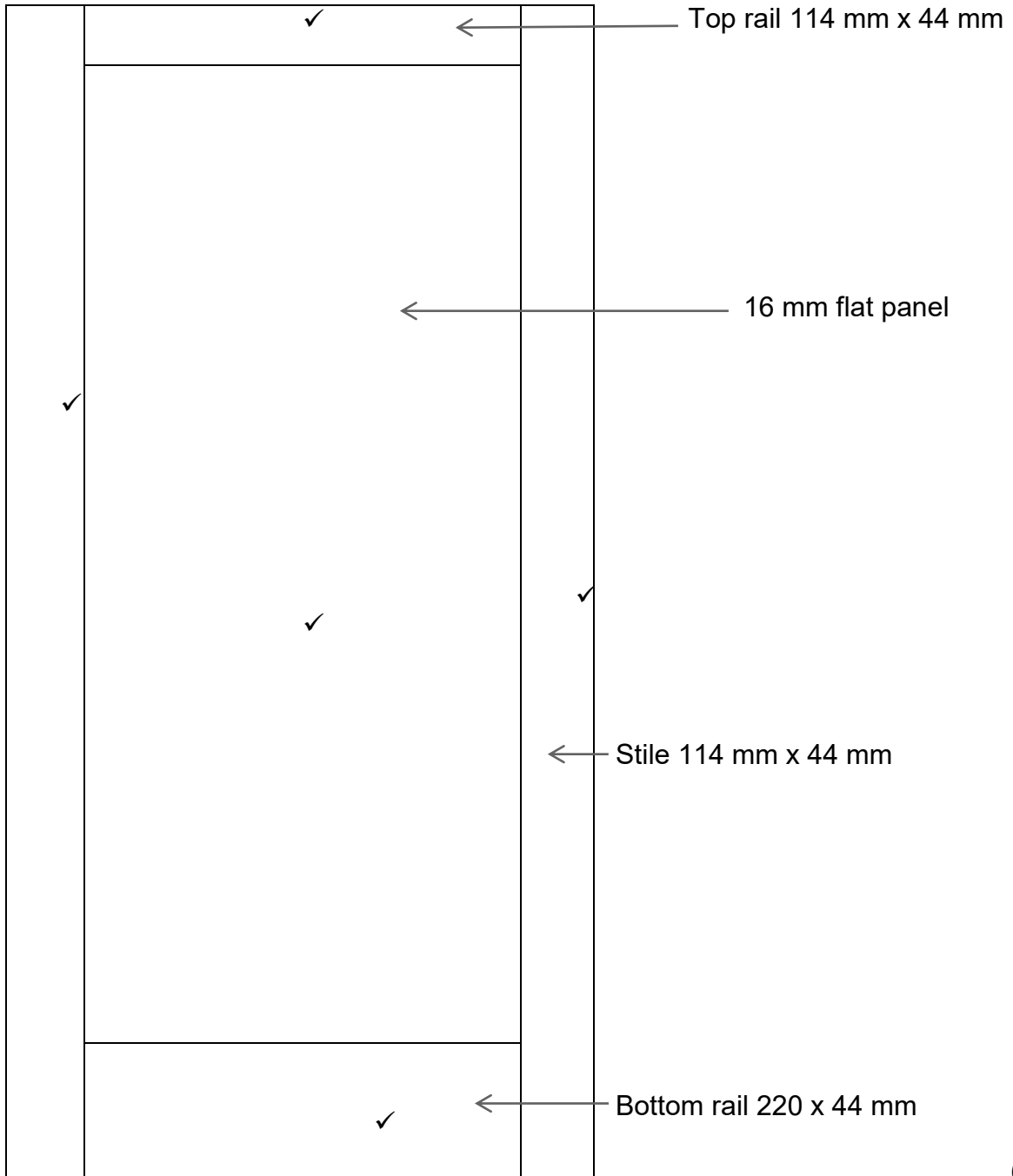
ASSESSMENT CRITERIA	MARK
Wall	1
Capping	1
Rough ground	1
Tongue and groove board	1
Correctness of drawing	1
TOTAL:	5

(5)

Correctness ✓

ANSWER SHEET 3	CIVIL TECHNOLOGY WOODWORKING	NAME: _____

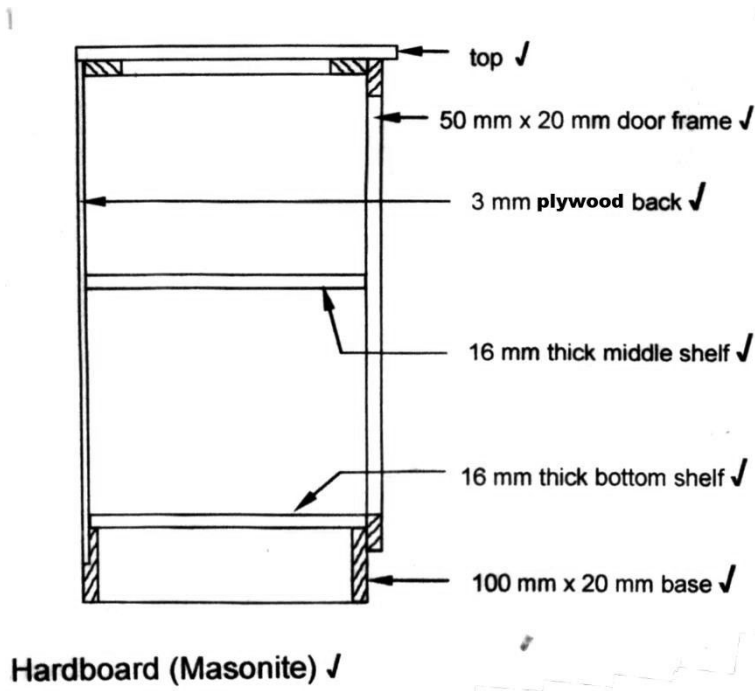
6.6 Front view one panel door



(6)

ANSWER SHEET 4	CIVIL TECHNOLOGY WOODWORKING	NAME: _____
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6.10 Cabinet



(7)