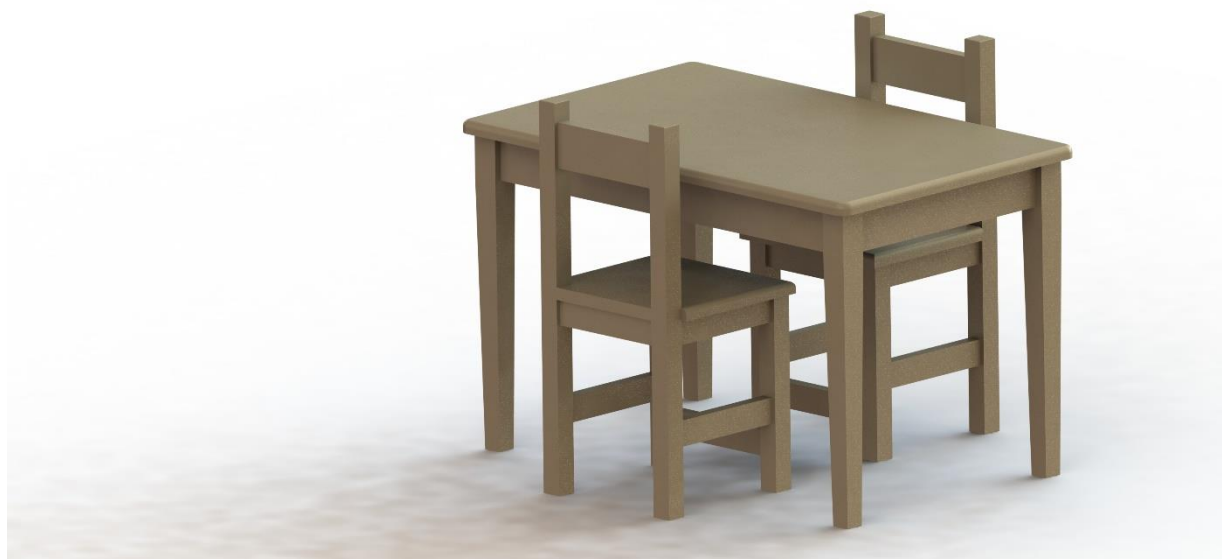




Industrial Technology
Stage 5 - Year 10
Children's Table and Chairs
Model: Ikea



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1. Rationale

The purpose of this project is to design, develop and construct a project from a set of specifications. Students are to complete design research. This will hopefully allow greater understanding of the purpose of the project as well as the design and construction methods selected.

Design development resulting in individualisation of project is encouraged. An accompanying Portfolio will document all of these processes.

2. Description of project

The Children's table and chairs is designed to be a useful item for families of all ages in an average Australian home. This project is designed to be taken home by students and used practically in the home, it should be a visual reminder in years to come, of the usefulness the Stage 5 Industrial Technology course was. It also allows family member to see, use and appreciate something that the student has made.

The Children's table and chairs employs many of the techniques used in larger projects and is designed as part of a sequenced progression of skill building. This is especially helpful for those students looking at completing Industrial Technology or Design and Technology in Stage 6. Widening Joints, leg and rail construction, mortise and tenon, doweling, planing and routed edge detailing are all elements of the project.

3. Materials

Radiata Pine is native to the central coast of California but is widely planted in Australia and New Zealand. It makes up 28% of Tasmania's timber plantations and is an environmentally sustainable softwood popular in all types of construction and decorative uses. These include framing, lining, glue laminated beams, veneer and plywood. It can be used for many exposed structural and non-structural applications if it is treated with the right preservatives.

The texture of Radiata Pine is fine, but uneven, and knots are common. The timber is fairly soft and has a low density, often with very wide annual growth rings. The sapwood is white to pale yellow, but often indistinguishable from the heartwood, which is light brown to yellow. The grain is usually straight, apart from a central core of 100mm, which can twist if the moisture content of the timber changes.

Radiata Pine is easy to work, apart from the knots, and it readily accepts preservatives.

4. Cutting list and Costing

Table – Pine (One table per group)

Item	Timber size (mm)	Length (mm)	Quantity	\$ per meter	Cost (\$)
Table Top	140 x 19	800	4	\$5.36	\$17.15
Table Leg	42 x 42	480	4	\$4.10	\$7.87
Long Rail	70 x 19	680	2	\$2.71	\$1.84
Short Rail	70 x 19	380	2	\$2.71	\$1.84
				Total	\$28.70

Chairs – Pine (this price is for one chair only)

Item	Timber size (mm)	Length (mm)	Quantity	\$ per meter	Cost (\$)
Chair Top	140 x 19	265	2	\$5.36	\$2.84
Back Legs	32 x 32	600	2	\$2.98	\$1.79
Front Legs	32 x 32	300	2	\$2.98	\$1.79
Bottom Rails	42 x 19	196	3	\$1.45	\$0.85
Top Rails	42 x 19	196	4	\$1.45	\$1.14
Back Rest	70 x 19	196	1	\$2.05	\$0.40
				Total	\$8.81

Note: you need to make two chairs so everything will be doubled in this table.

5. Construction Process (Class Task)

Fill this section with each construction stage

1.

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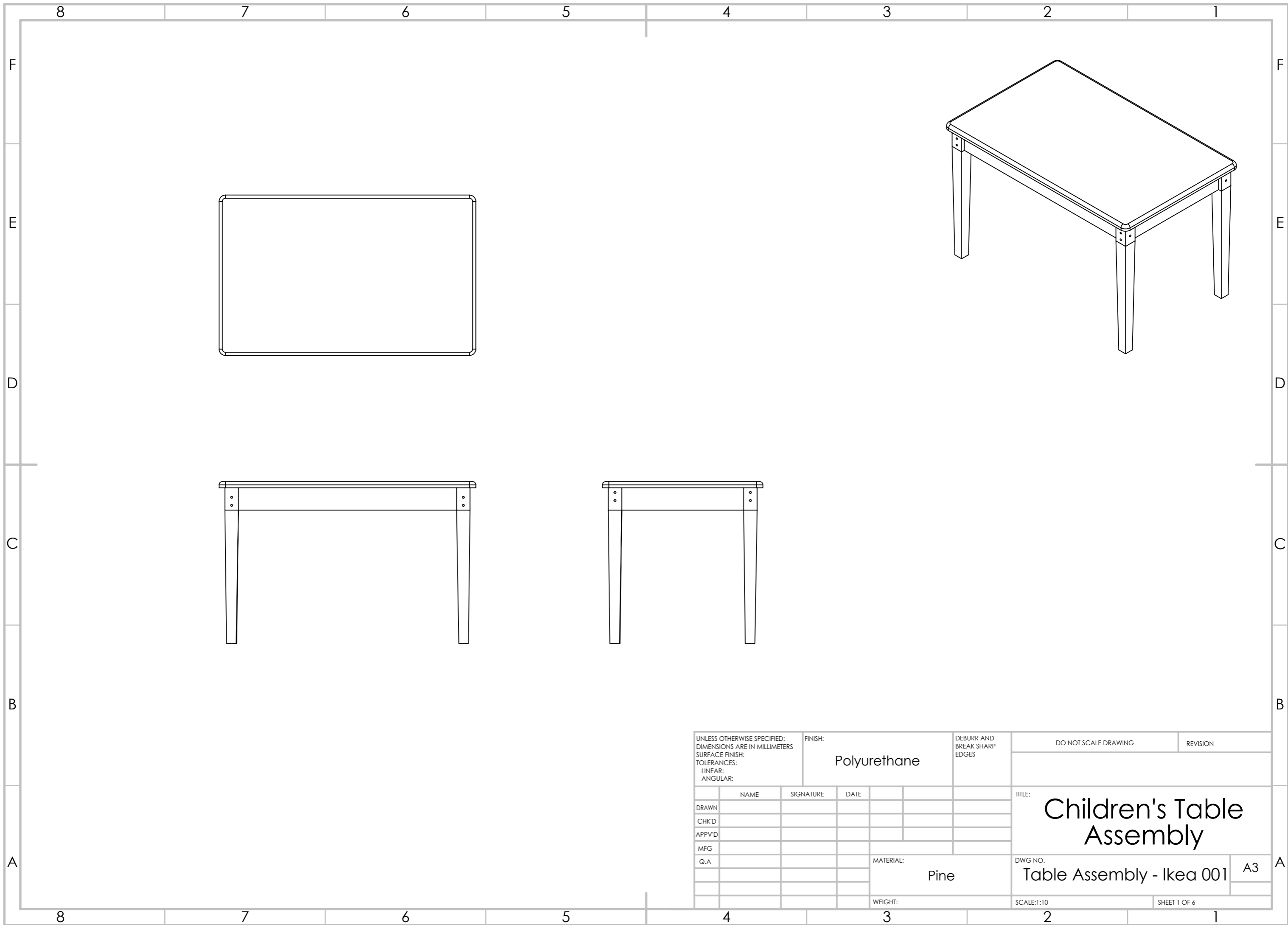
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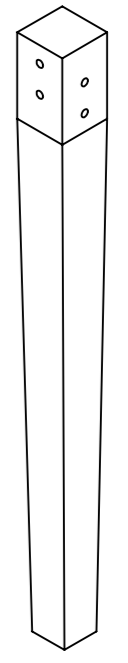
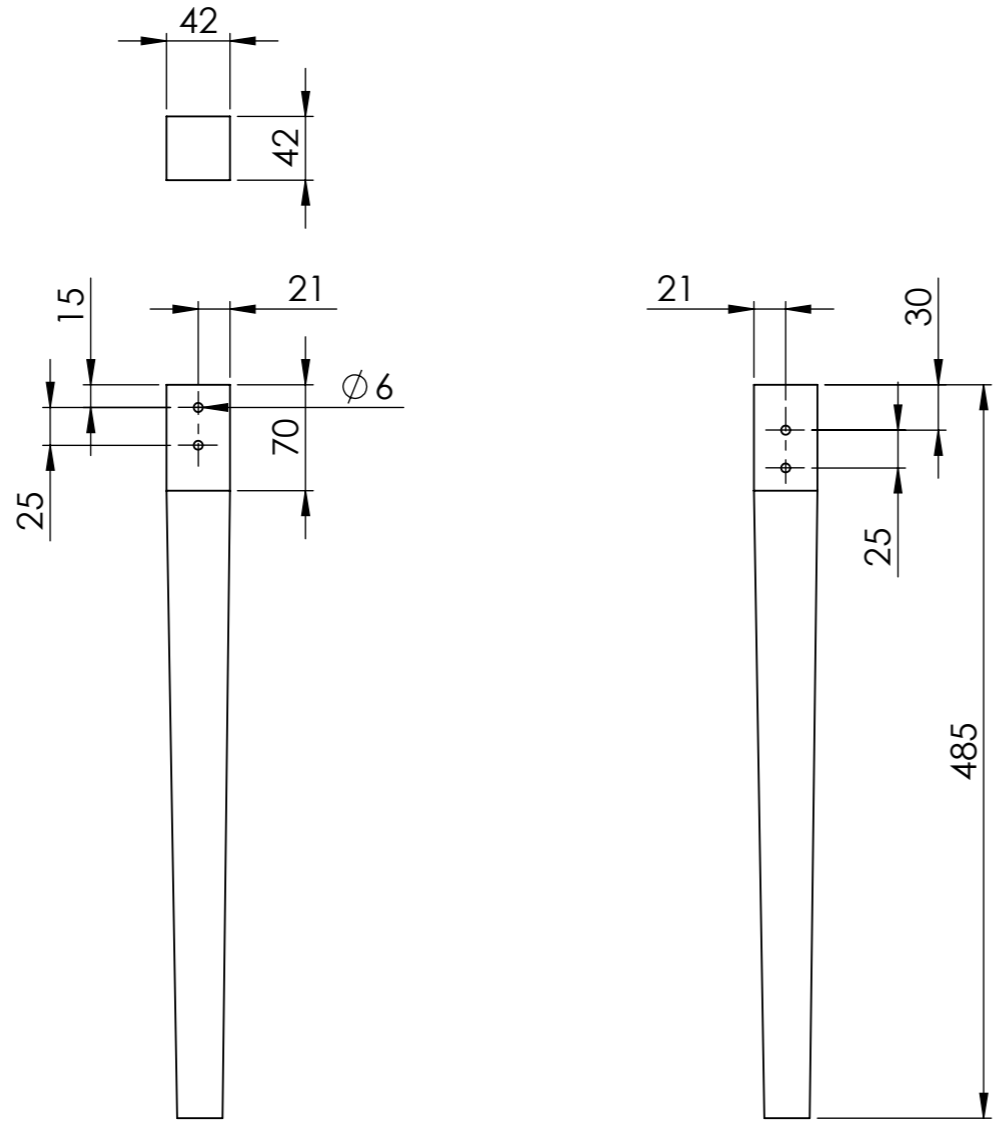


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SURFACE FINISH: TOLERANCES: LINEAR: ANGULAR:											
DRAWN		NAME		SIGNATURE		DATE				TITLE: Children's Table Assembly	
CHK'D											
APPV'D											
MFG											
Q.A								MATERIAL: Pine		DWG NO. Table Assembly - Ikea 001	
								WEIGHT:		SCALE:1:10	
										SHEET 1 OF 6	

A

A

8	7	6	5	4	3	2	1
ITEM NO.	Part Name	Length	Width	Thickness	GTY.		
2	Table Leg	485	42	42	4		

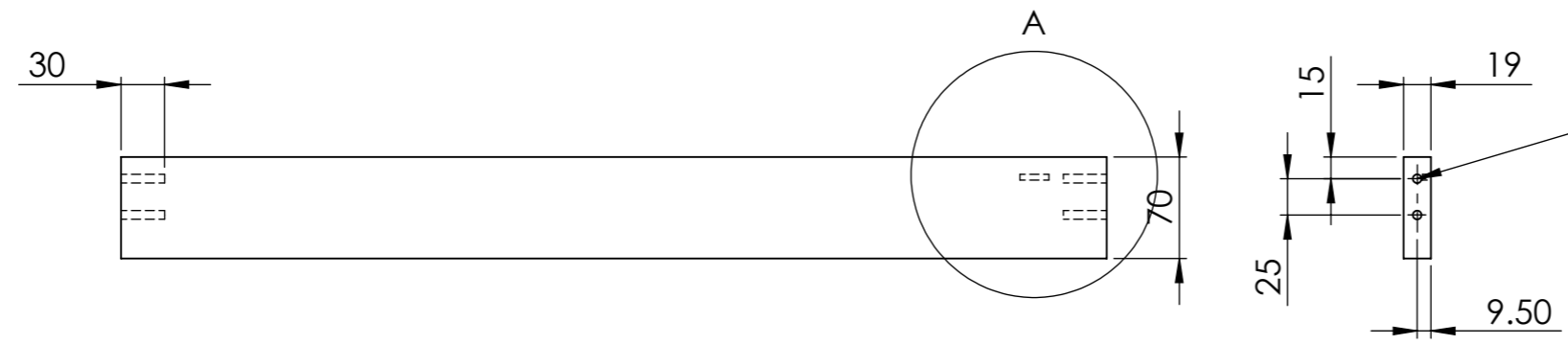
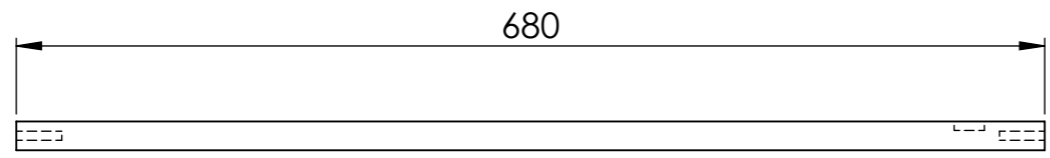
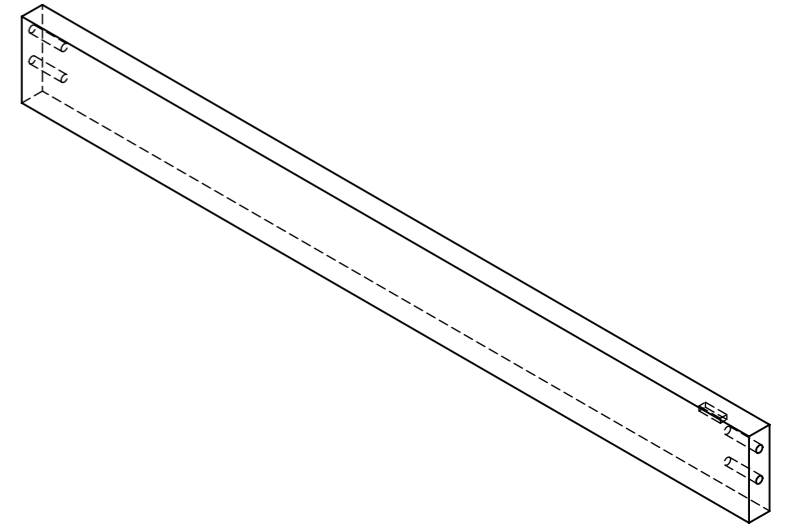


Note: all holes drilled 6mm through.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS SURFACE FINISH: TOLERANCES: LINEAR: ANGULAR:			FINISH: Polyurethane		DEBURR AND BREAK SHARP EDGES		DO NOT SCALE DRAWING		REVISION		
DRAWN			NAME		SIGNATURE		DATE		TITLE: Childrens Table Assembly		
CHK'D									DWG NO. Table Leg 003		
APPV'D									A3		
MFG									SCALE:1:5		
Q.A							MATERIAL: Pine		SHEET 3 OF 6		
							WEIGHT:				

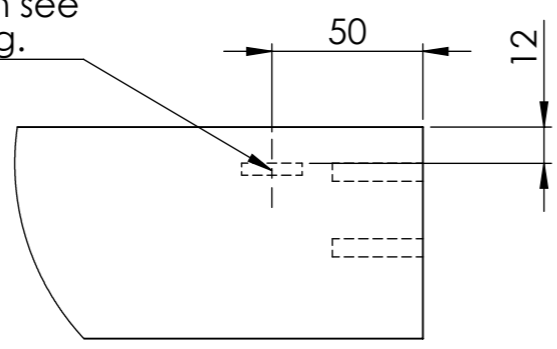
8 7 6 5 4 3 2 1

ITEM NO.	Part Name	Length	Width	Thickness	QTY.
3	Long Rail	680	70	19	2



Note: both ends drilled the same.

Note: modified biscuit join see teacher for correct setting.

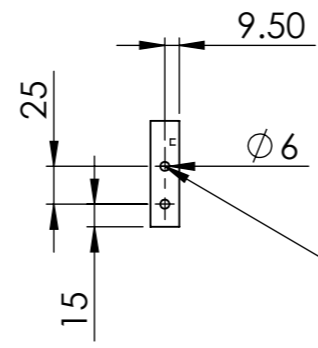
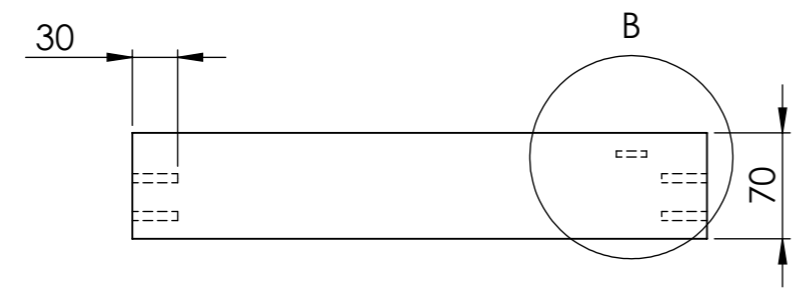
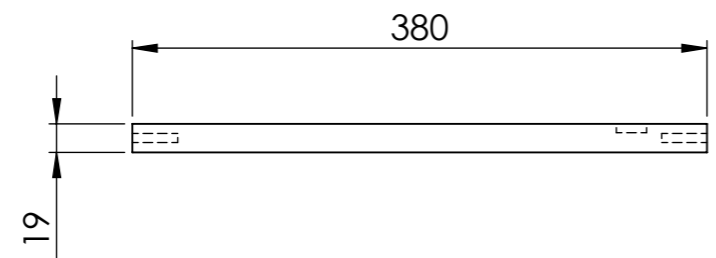
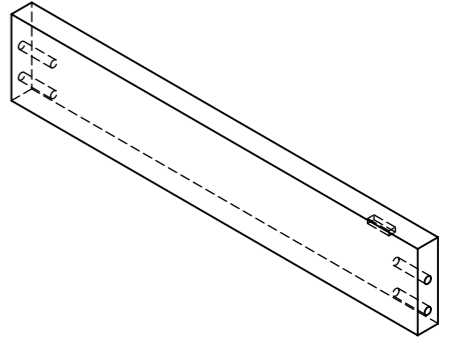


DETAIL A
SCALE 2 : 5

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DRAWN			NAME		SIGNATURE		DATE		TITLE: Childrens Table Assembly		
CHK'D									DWG NO. Long Rail 004		
APPV'D									A3		
MFG									SCALE:1:5		
Q.A							MATERIAL: Pine		SHEET 4 OF 6		
							WEIGHT:				

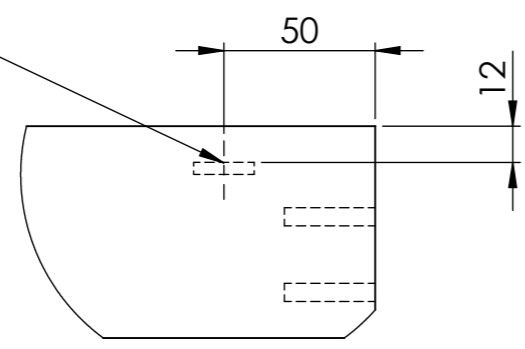
8 7 6 5 4 3 2 1

8	7	6	5	4	3	2	1
ITEM NO.	Part Name	Length	Width	Thickness	QTY.		
4	Short Rail	380	70	19	2		



Note: both ends drilled the same.

Note: modified biscuit join see teacher for correct setting.

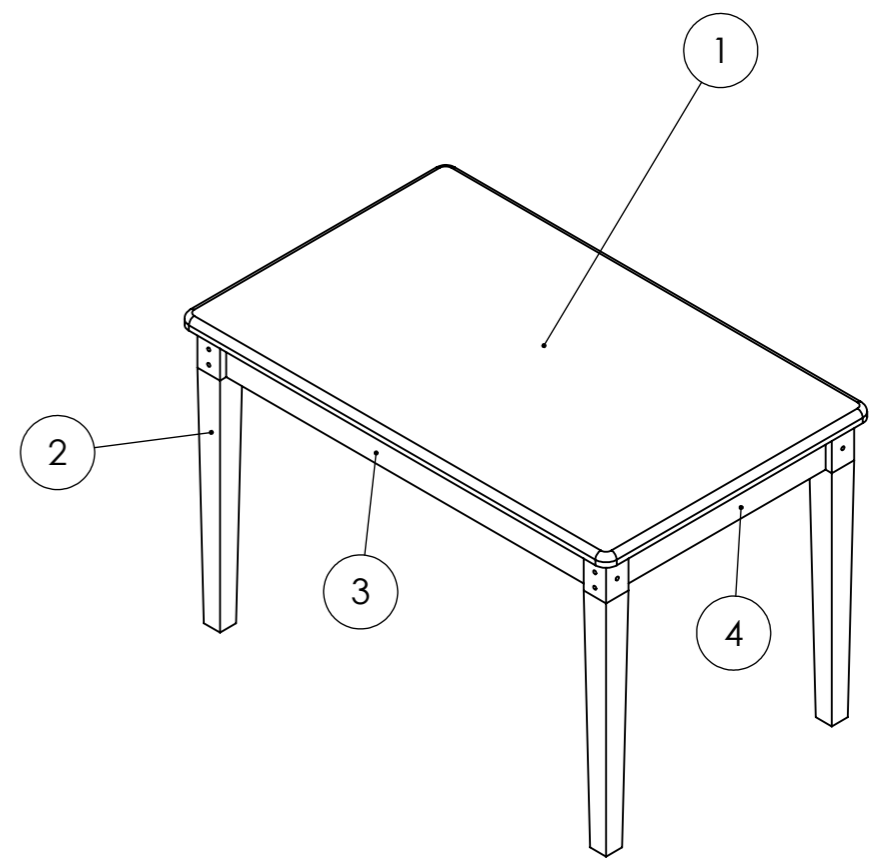


DETAIL B
SCALE 2 : 5

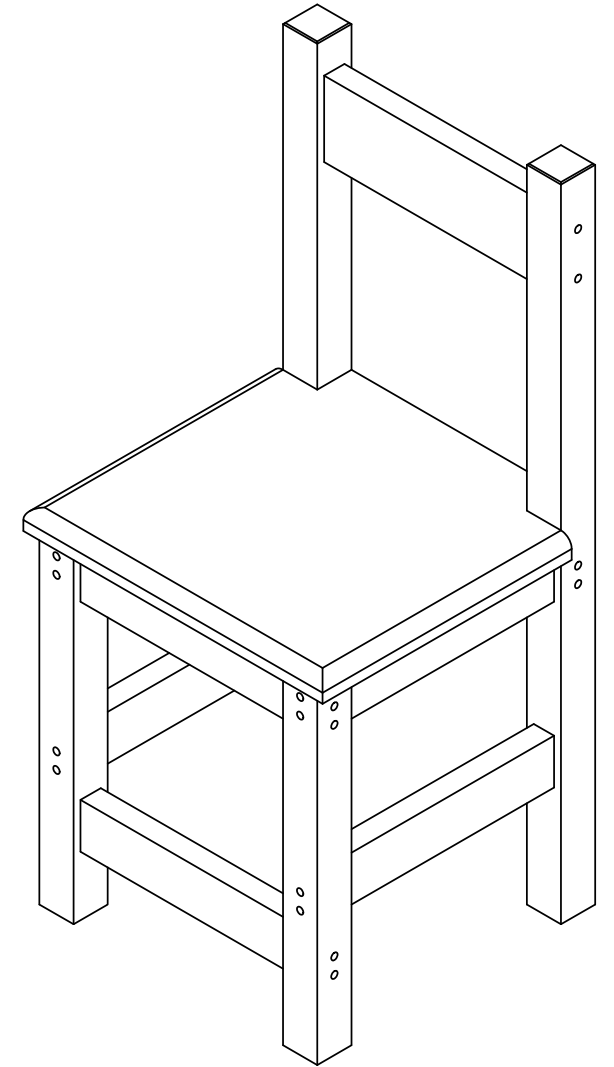
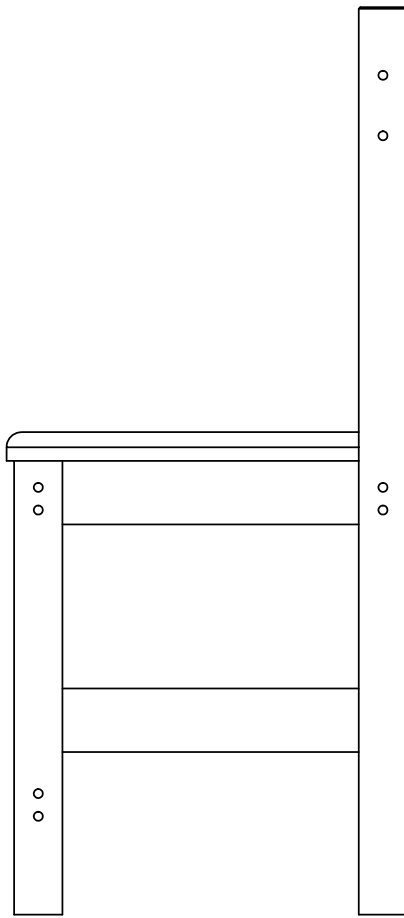
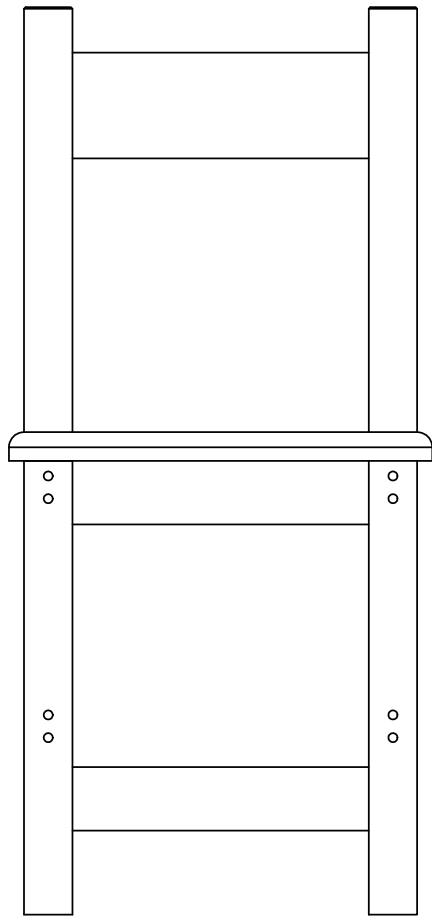
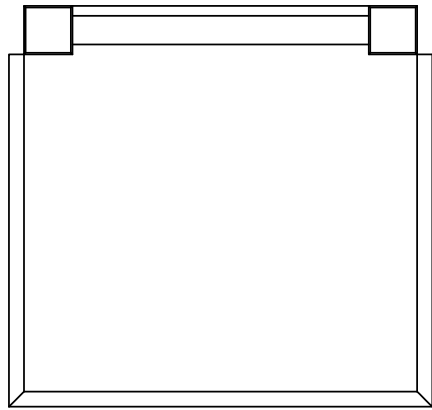
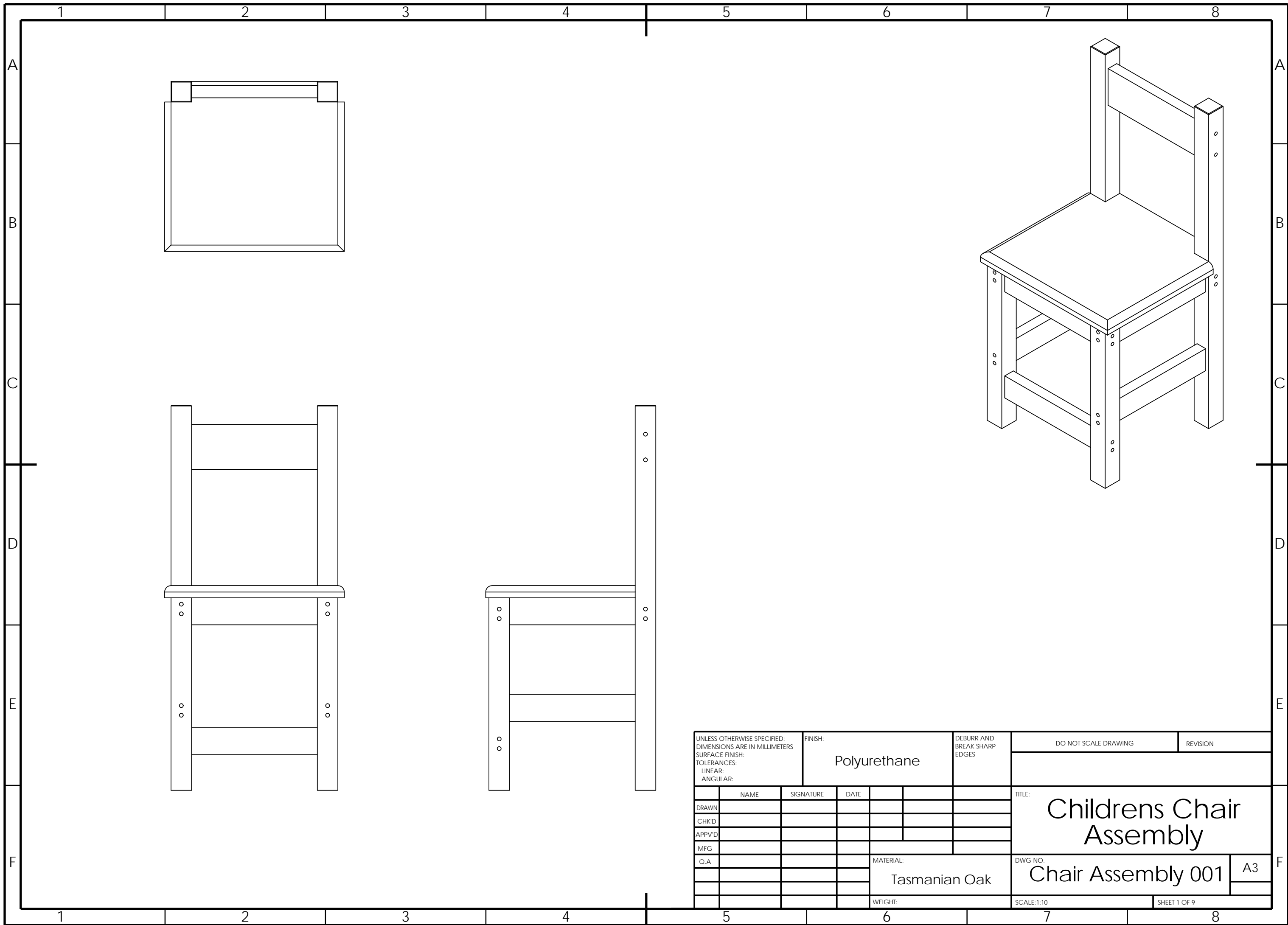
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SURFACE FINISH:											
TOLERANCES:											
LINEAR:											
ANGULAR:											
DRAWN		NAME		SIGNATURE		DATE		TITLE:		Childrens Table Assembly	
CHK'D								DWG NO.		Short Rail 005	
APPV'D								MATERIAL:		Pine	
MFG								WEIGHT:		SCALE:1:10	
Q.A								SHEET 5 OF 6		A3	

ITEM NO.	Part Name	Length	Width	Thickness	QTY.
1	Table Top	800	140	19	4
2	Table Leg	485	42	42	4
3	Long Rail	680	70	19	2
4	Short Rail	380	70	19	2

Note: mark all parts out first and double check them before you start cutting anything.

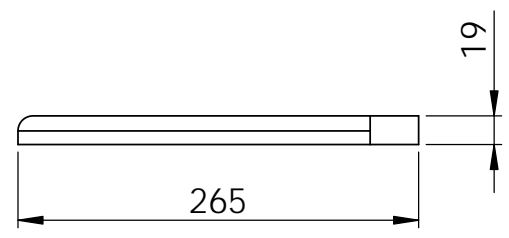
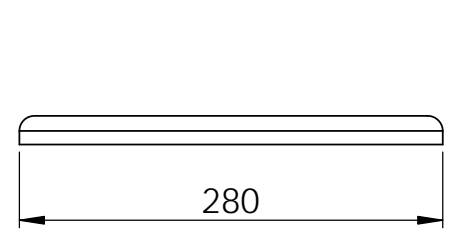
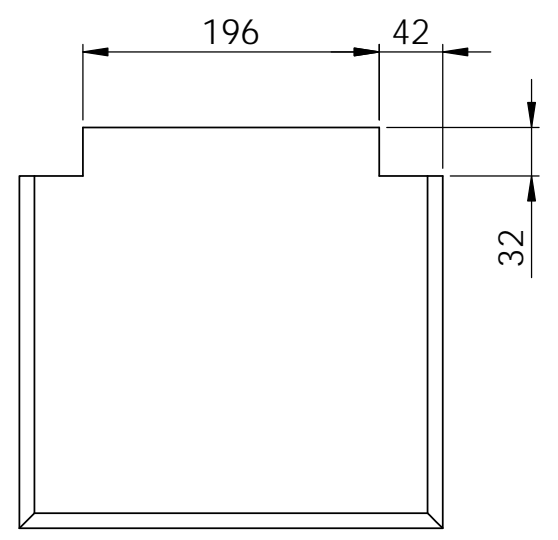
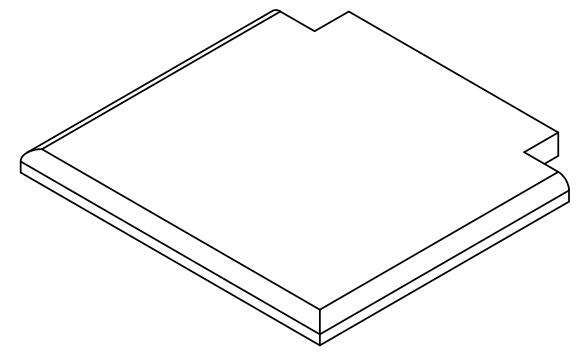


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DRAWN			NAME			SIGNATURE			DATE		
CHK'D											
APPV'D											
MFG											
Q.A											
						MATERIAL: Pine			TITLE: Childrens Table Assembly		
						DWG NO. Table Cutting List 006			A3		
						WEIGHT:			SCALE:1:10		
									SHEET 6 OF 6		



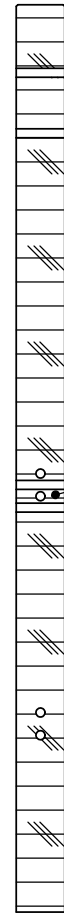
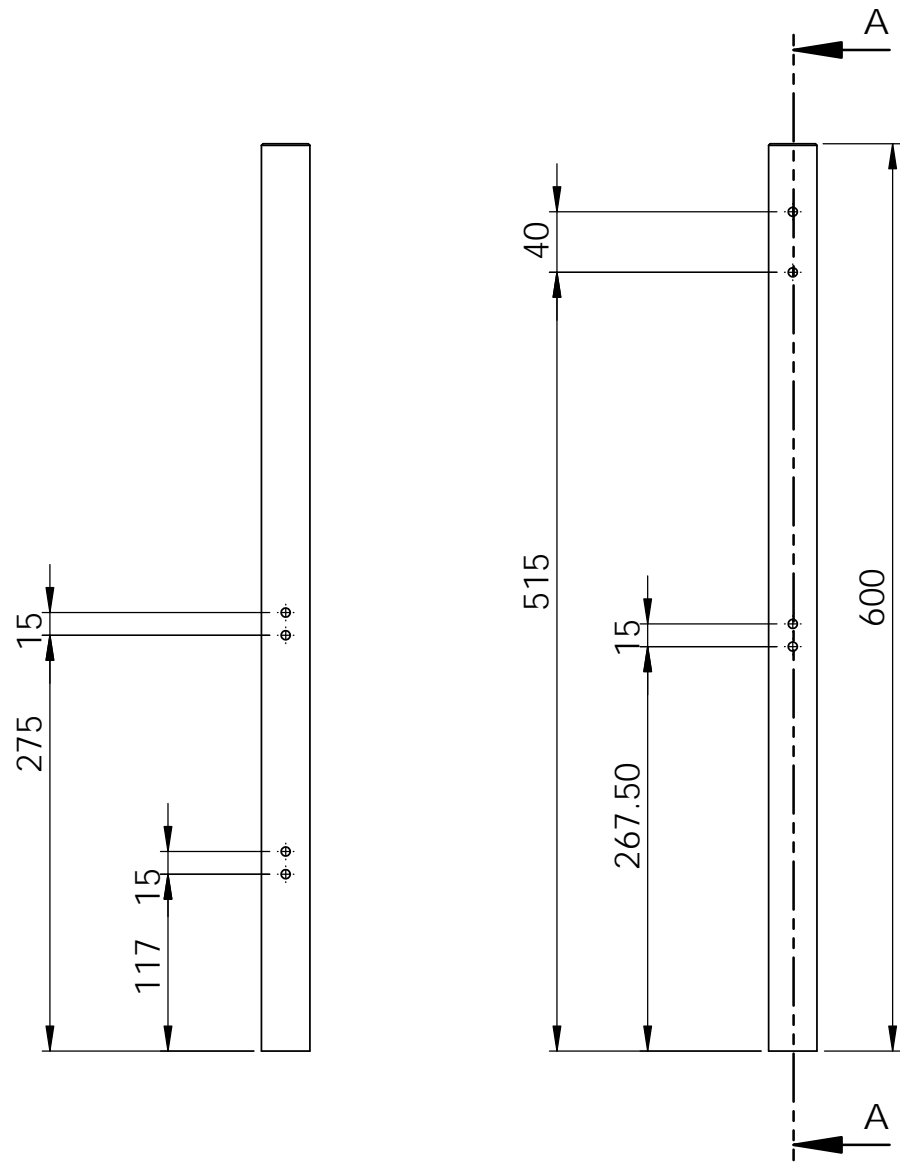
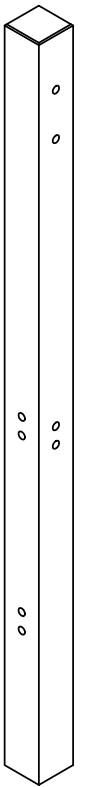
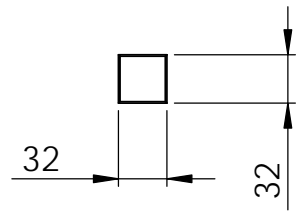
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DRAWN				NAME		SIGNATURE		DATE		TITLE: Childrens Chair Assembly	
CHK'D										DWG NO. Chair Assembly 001	
APPV'D										A3	
MFG										SCALE: 1:10	
Q.A								MATERIAL: Tasmanian Oak		SHEET 1 OF 9	
								WEIGHT:			

1	2	3	4	5	6	7	8
ITEM NO.	Part Name	Length	Width	Thickness	QTY.		
1	Chair Top	280	140	19	2		



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS				FINISH: Polyurethane		DEBURR AND BREAK SHARP EDGES		DO NOT SCALE DRAWING		REVISION	
SURFACE FINISH:											
TOLERANCES:											
LINEAR:											
ANGULAR:											
	NAME	SIGNATURE	DATE					TITLE: Childrens Chair Assembly			
DRAWN											
CHK'D											
APPV'D											
MFG											
Q.A								DWG NO. Chair Top 002		A3	
								SCALE:1:10		SHEET 2 OF 9	

ITEM NO.	PART NUMBER	Length (mm)	Width (mm)	Thickness (mm)	QTY.
2	Front Leg	600	32	32	2

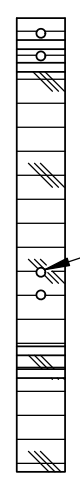
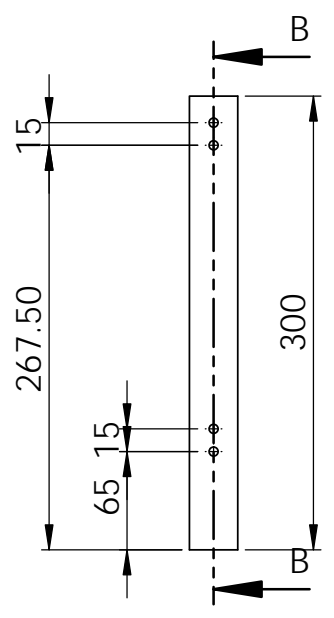
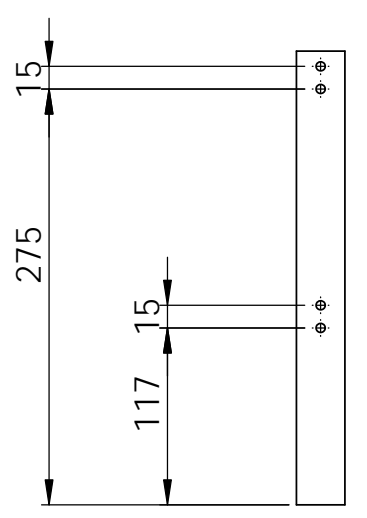
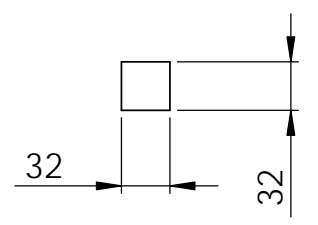
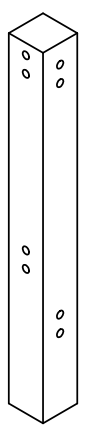


ALL HOLES ON LEGS 7.0MM THRU.

SECTION A-A
SCALE 1 : 5

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SURFACE FINISH:											
TOLERANCES:											
LINEAR:											
ANGULAR:											
DRAWN		NAME		SIGNATURE		DATE		TITLE:		Childrens Chair Assembly	
CHK'D											
APPV'D											
MFG											
Q.A								MATERIAL:		Pine	
								DWG NO.		Back Leg 003	
								WEIGHT:		A3	
								SCALE:1:10		SHEET 3 OF 9	

1	2	3	4	5	6	7	8
ITEM NO.	PART NUMBER	Length (mm)	Width (mm)	Thickness (mm)	QTY.		
3	Front Leg	600	32	32	2		

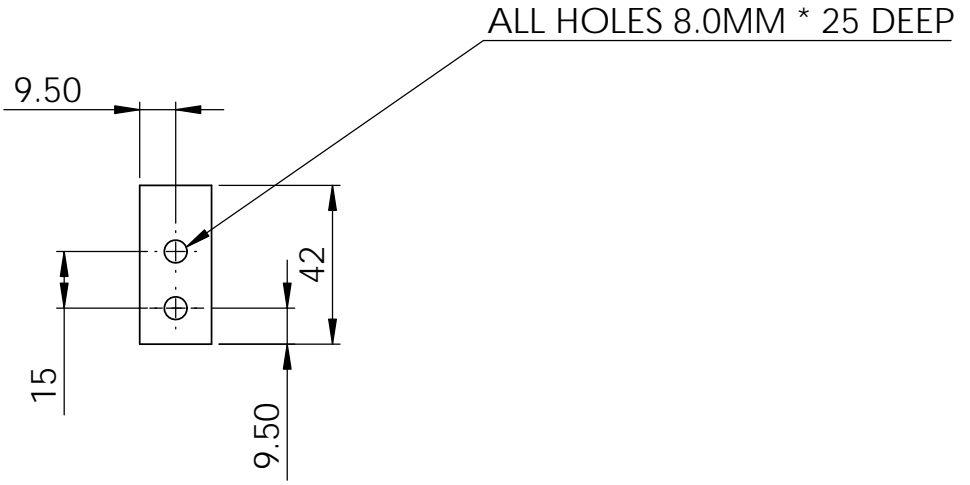
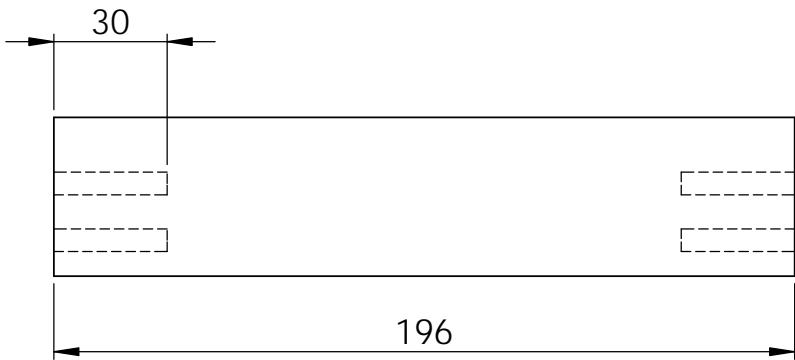
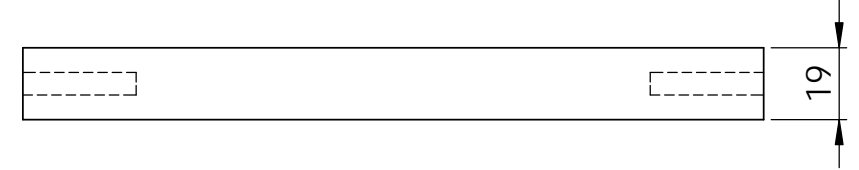
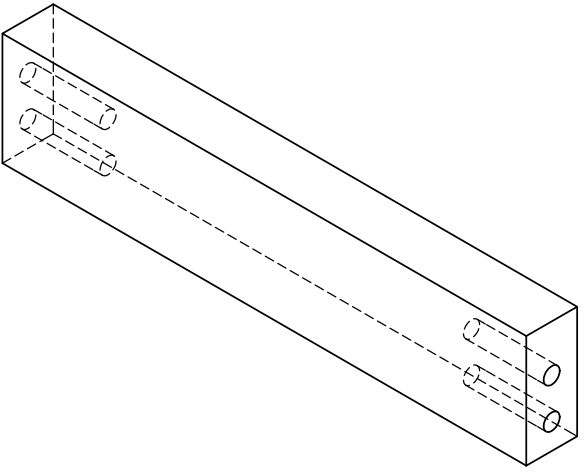


ALL HOLES ON LEGS 7.0MM THRU

SECTION B-B
SCALE 1 : 5

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DRAWN						TITLE: Childrens Chair Assembly					
CHK'D						DWG NO. Front Leg 004					
APPV'D											
MFG											
Q.A											
MATERIAL: Pine						SCALE:1:10		SHEET 4 OF 9			

1	2	3	4	5	6	7	8
ITEM NO.	PART NUMBER	Length	Width	Thickness	QTY.		
4	Front Back Top Rails	196	42	19	3		



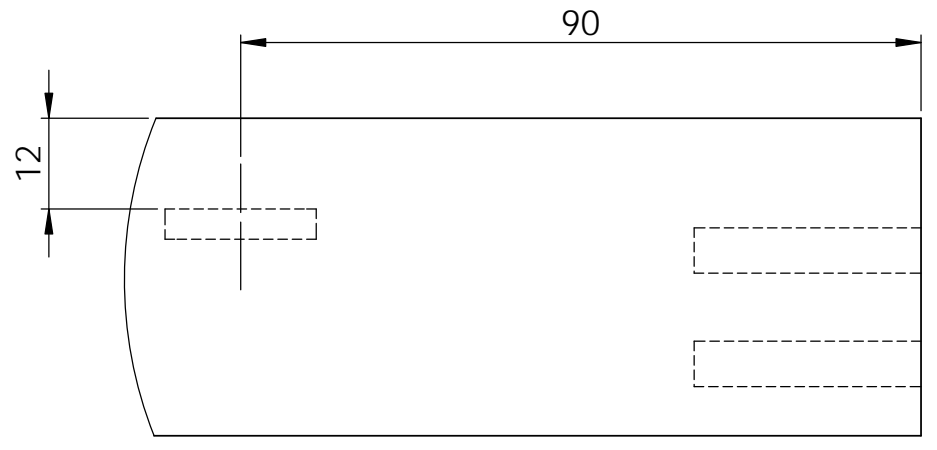
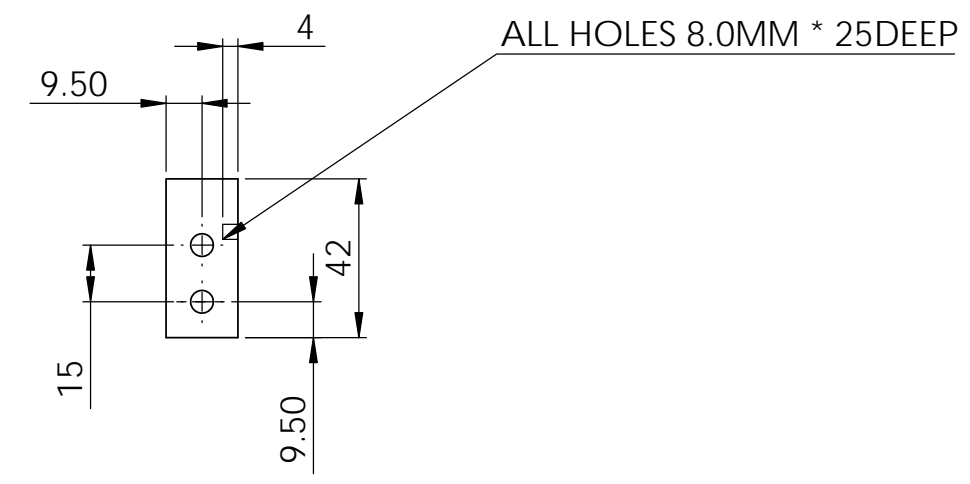
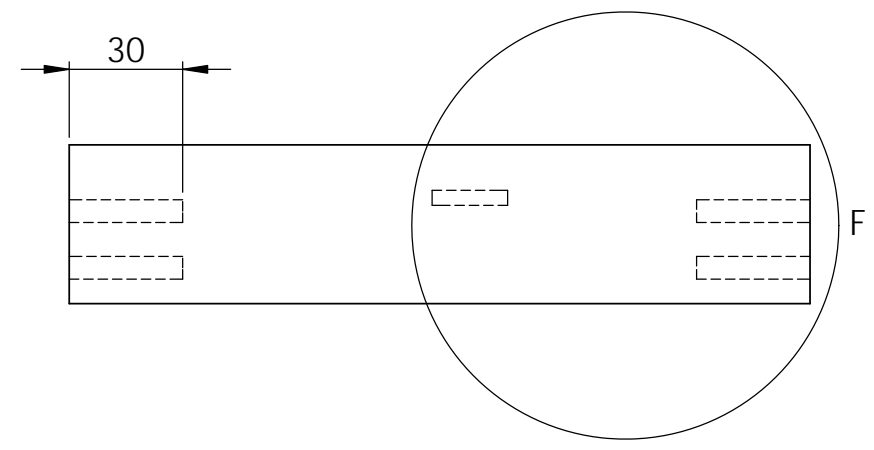
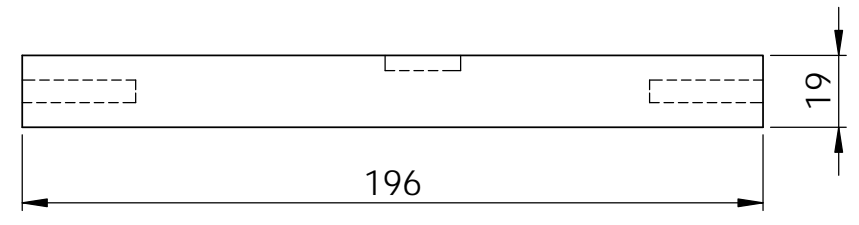
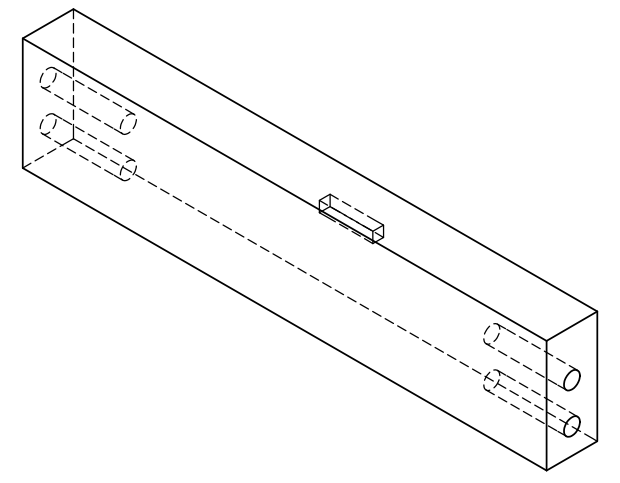
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DRAWN						TITLE: Childrens Chair Assembly					
CHK'D						DWG NO. Bottom Rails 005					
APPV'D											
MFG											
Q.A											
MATERIAL: Pine						SCALE:1:10		SHEET 5 OF 9			
WEIGHT:											

A
B
C
D
E
F

A
B
C
D
E
F

1 2 3 4 5 6 7 8

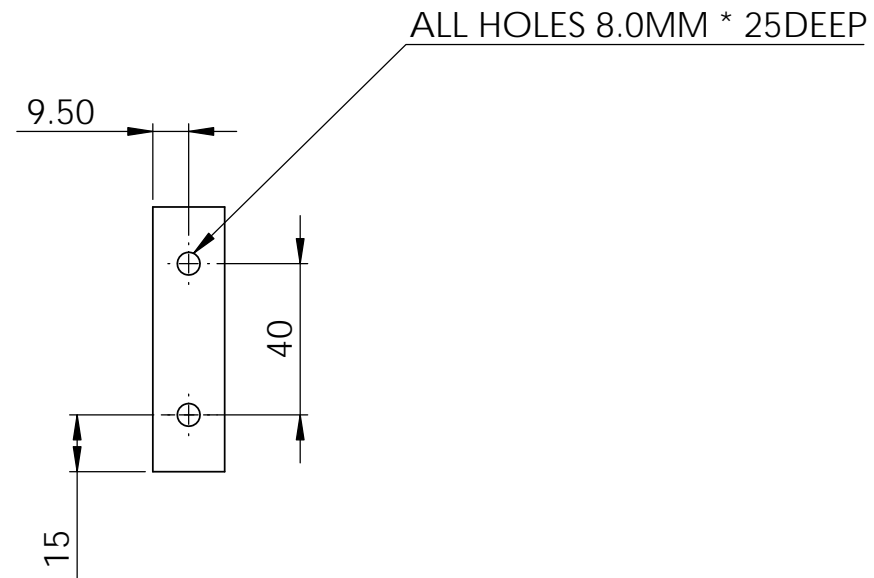
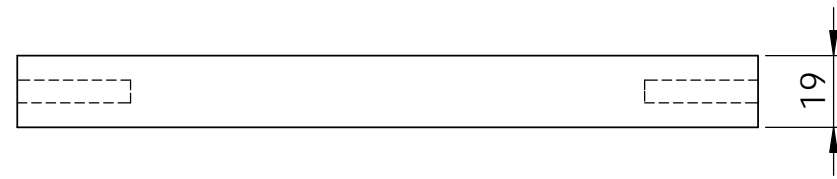
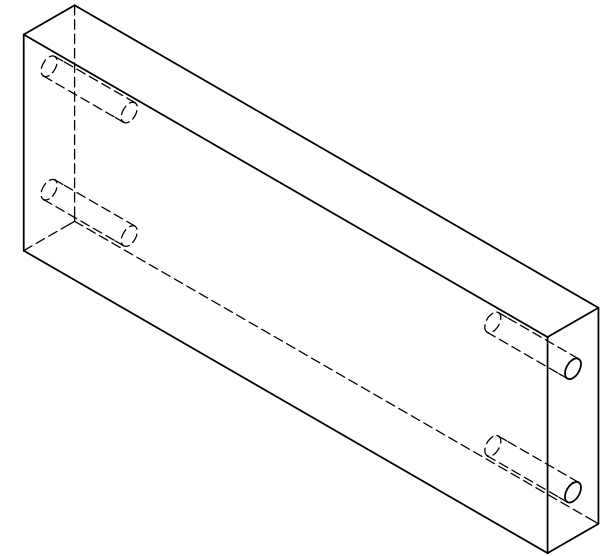
1	2	3	4	5	6	7	8
ITEM NO.	PART NUMBER	Length	Width	Thickness	QTY.		
5	Front Back Top Rails	196	42	19	2		



DETAIL F
SCALE 1 : 1

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS SURFACE FINISH: TOLERANCES: LINEAR: ANGULAR:				FINISH: Polyurethane		DEBURR AND BREAK SHARP EDGES		DO NOT SCALE DRAWING		REVISION	
DRAWN						TITLE: Childrens Chair Assembly					
CHK'D						DWG NO. Top Rails 006					
APPV'D											
MFG											
Q.A											
MATERIAL: Pine						SCALE:1:10		SHEET 6 OF 9			
WEIGHT:											

1	2	3	4	5	6	7	8
ITEM NO.	PART NUMBER	Length	Width	Thickness	QTY.		
6	Front Back Top Rails	196	70	19	1		



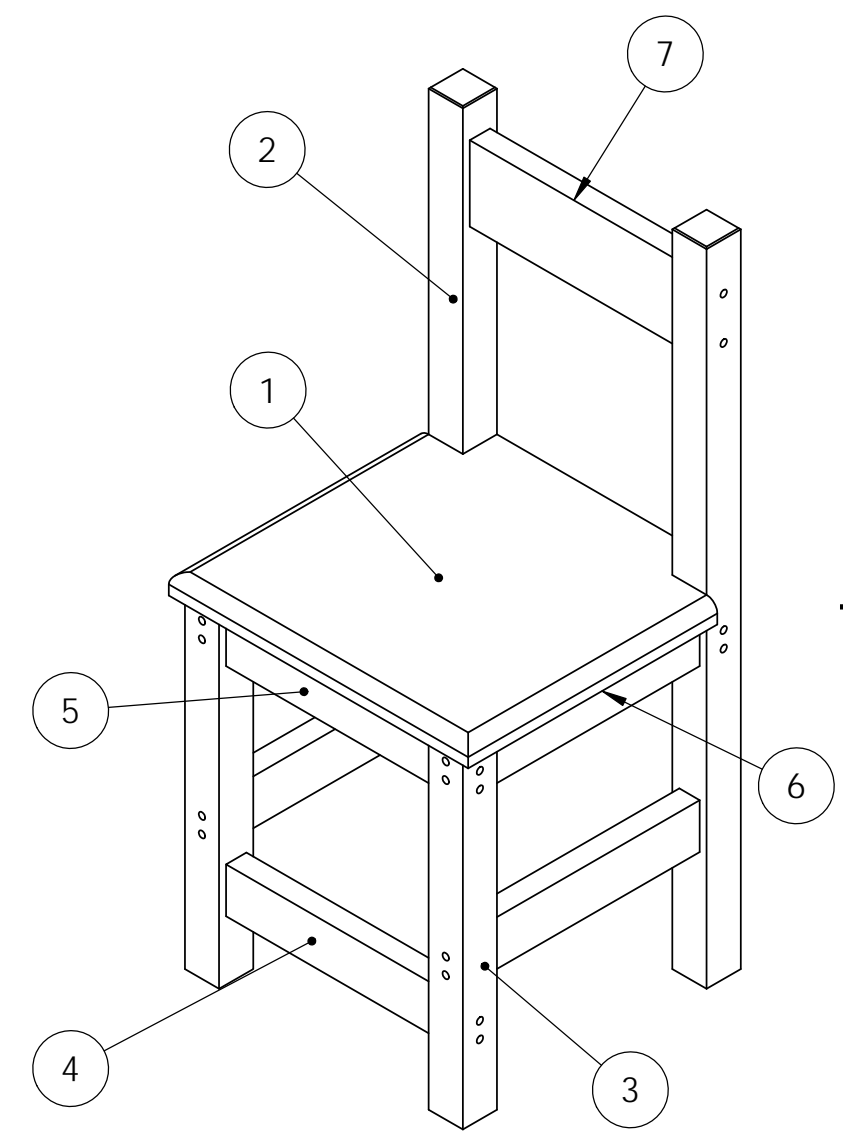
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DRAWN						TITLE: Childrens Chair Assembly					
CHK'D						DWG NO. Back Rest 007					
APPV'D											
MFG											
Q.A											
						MATERIAL: Pine		SCALE:1:10		SHEET 8 OF 9	
						WEIGHT:					

A
B
C
D
E
F

A
B
C
D
E
F

1 2 3 4 5 6 7 8

ITEM NO.	PART NUMBER	Length	Width	Thickness	QTY.
1	Chair Top	280	140	19	2
2	Back leg	600	32	32	2
3	Left Right Top Rail	196	32	32	2
4	Bottom Rails	196	42	19	3
5	Front Back Top Rails	196	42	19	2
6	Left Right Top Rails	196	42	19	2
7	Back Rest	196	70	19	1



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS SURFACE FINISH: TOLERANCES: LINEAR: ANGULAR:				FINISH: Polyurethane		DEBURR AND BREAK SHARP EDGES		DO NOT SCALE DRAWING		REVISION	
DRAWN				NAME		SIGNATURE		DATE		TITLE: Childrens Chair Assembly	
CHK'D											
APPV'D											
MFG											
Q.A										DWG NO. Chair Cutting List	
								MATERIAL: Tasmanian Oak		A3	
								WEIGHT:		SCALE:1:10	
										SHEET 9 OF 9	