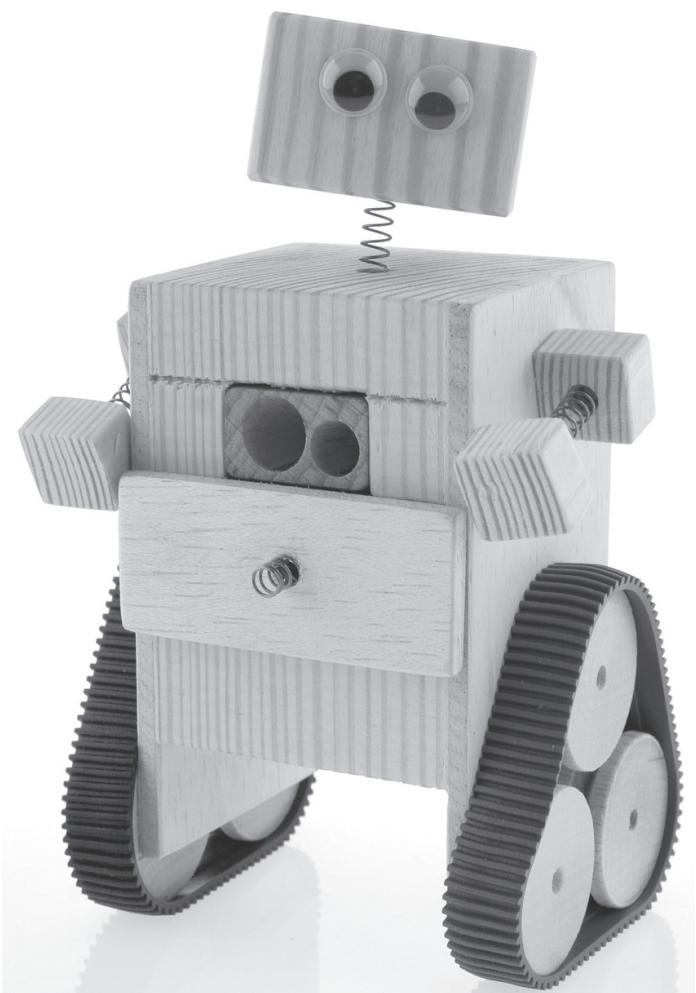


OPITEC

Hobbyfix

108.535

Mr. Robotman (Pencil caddy)



Parts list	Quantity	Size (mm)
Wooden block	1	50x50x50
Wooden block	1	40x40x40
Wooden strip	1	250x15x15
Plywood	1	200x200x4
Double pencil sharpener	1	25x25x15
4 Pulleys	6	Ø 30 mm
Waggle eyes	2	Ø 10 mm
Spring	1	5x150x0,5mm
Tracks	2	58x55x12,5mm

Necessary tools:

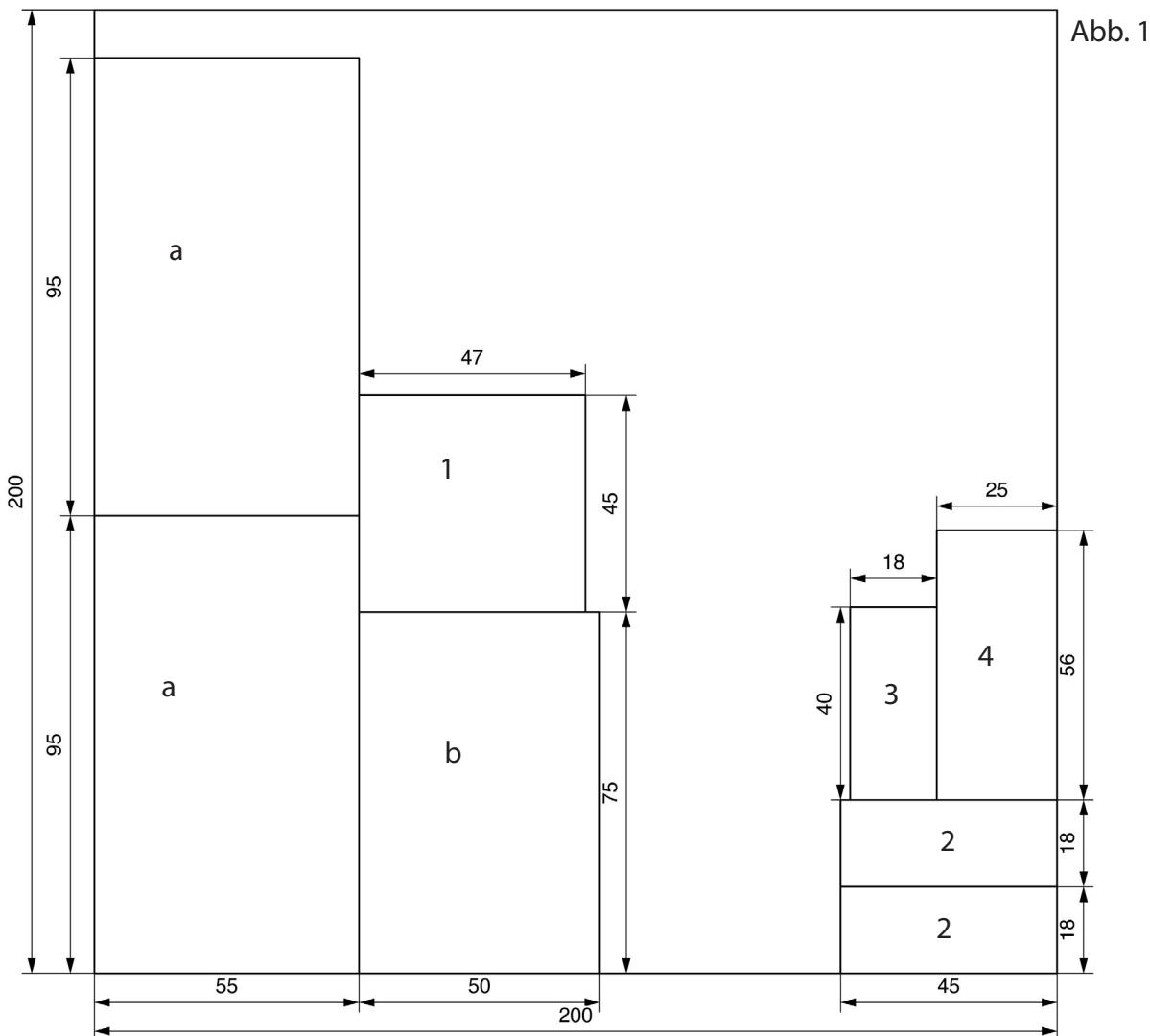
Pencil , ruler
Fine saw or Fretsaw
Pillar drill
Sandpaper, wood glue
Paint ,brush
Side cutters

Please Note

The OPITEC range of projects is not intended as play toys for young children. They are teaching aids for young people learning the skills of Craft, Design and Technology. These projects should only be undertaken and tested with the guidance of a fully qualified adult. The finished projects are not suitable to give to children under 3 years old. Some parts can be swallowed. Danger of suffocation!

Instructions

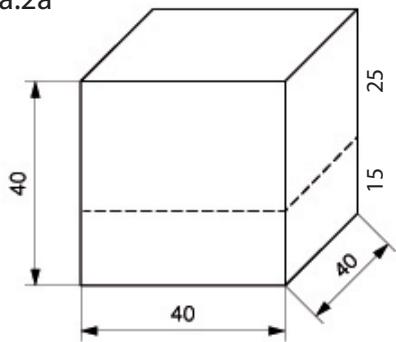
1. Mark out the plans as shown on the plywood sheet 200 x 200 x 4mm as shown (See diagram 1) with a pencil and ruler. Cut the pieces out with a saw and clean up all the edges with a block and sandpaper. To make things easier you could trace or photocopy the patterns on page 7 &9 and use these direct on the wood.



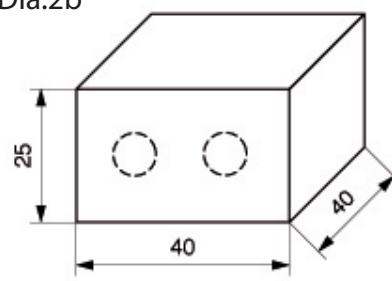
2. Making the Robot head

- Mark out a line 15mm up from the bottom around the wooden block 40 x 40 x 40mm (Diagram 2) Saw the piece off and sandpaper it flat.
- On the head for the Robot mark out the positions for the waggle eyes. (Diagram 2)
- Mark out and drill (Use pillar drill & machine vice) the blind holes for pencils in the backpack (40 x 40 x 15mm) (Diagram 2c). These holes should be 20mm -25mm deep in order to store pencils ,pens etc.

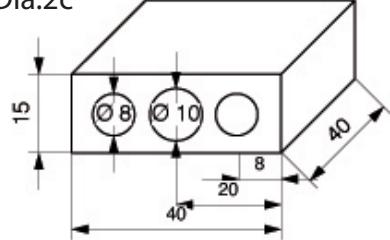
Dia.2a



Dia.2b



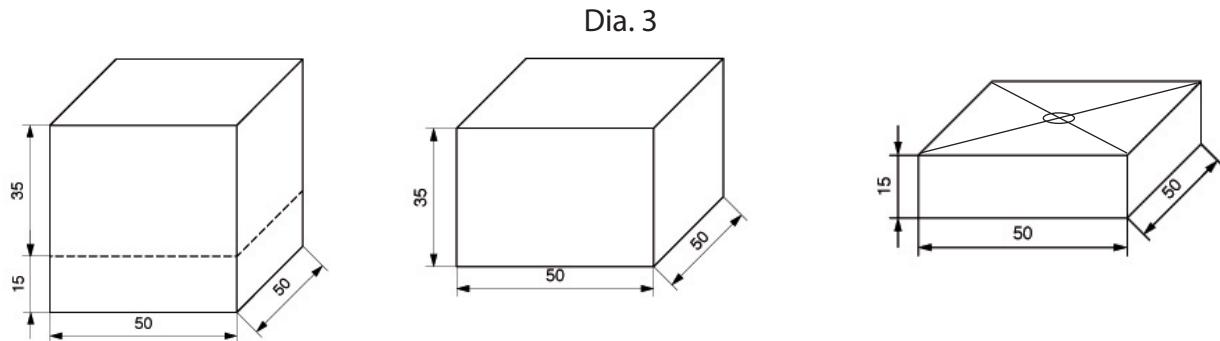
Dia.2c



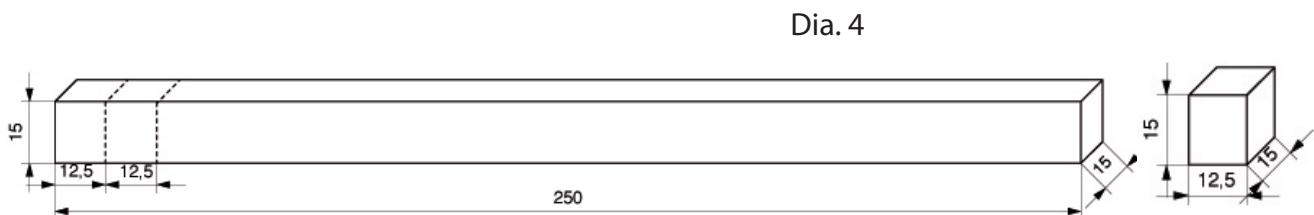
Instructions

3. Making the parts for the Robot body

Mark out a line 15mm up around the wooden block 50 x 50 x 50mm. Saw the piece off and finish it with sandpaper. Draw diagonals on the 50 x 50 x 15mm piece and drill a 5mm diameter hole in the middle (Diagram 3).



4. Mark out and saw 2 x 12.5mm pieces from the wooden strip 250x 45 x 15mm- Sandpaper the sawn ends.

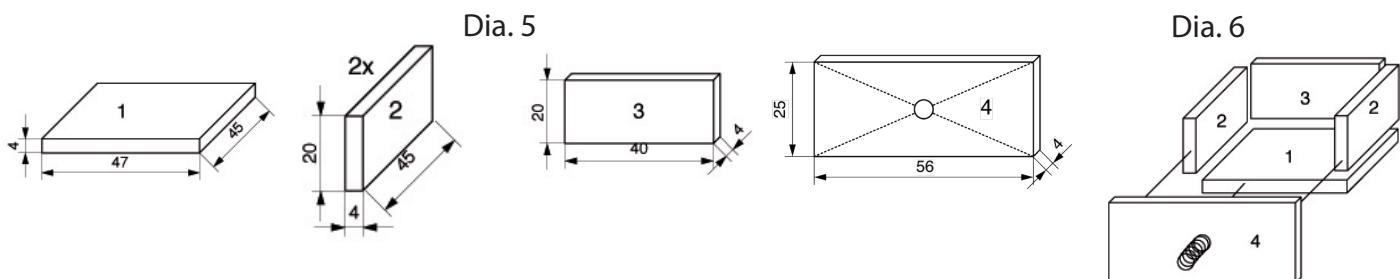


5. Making the drawer

On part 4 mark out the centre point with diagonals and drill the centre 5mm diameter hole.

Now assemble the previously cut plywood pieces for the drawer as shown Diagram 5)

Finally glue the together (diagram 6)

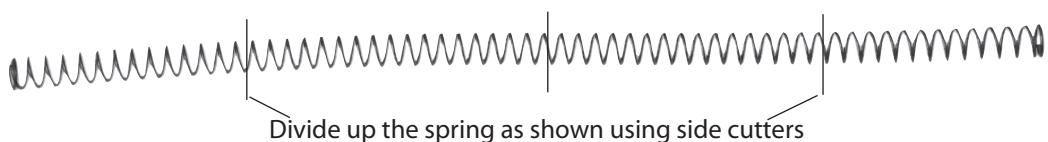


6. The springs for the arms, head and drawer pull

Cut the spring into lengths with side cutters as shown.

Tip:

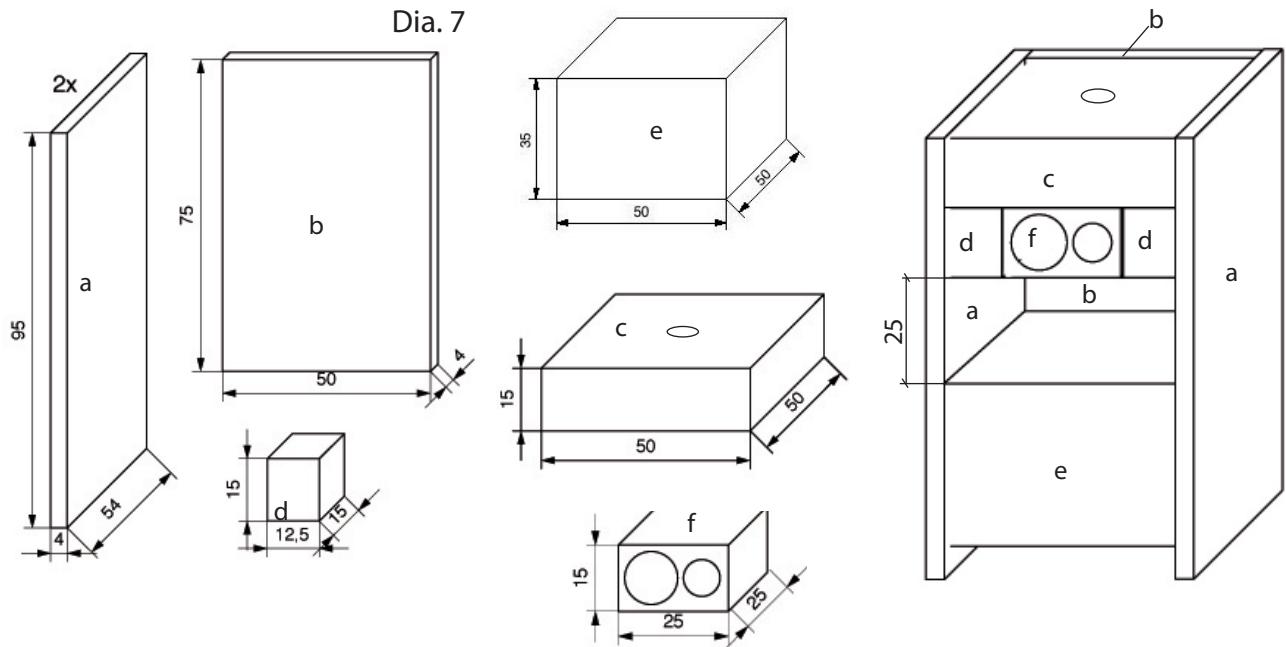
Four lengths are needed altogether, you can work out for yourself what is needed. For example the spring pull on the drawer does not need to be as long as those for the arms.



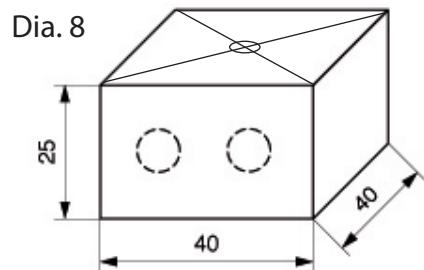
Instructions

7. Making the body

The body is constructed from the plywood parts already sawn out at the beginning (See diagram1) and in steps 3 &4 . These parts are then assembled and glued as shown (Diagram 7)
The pencil sharpener is glued above the drawer with the blade facing down

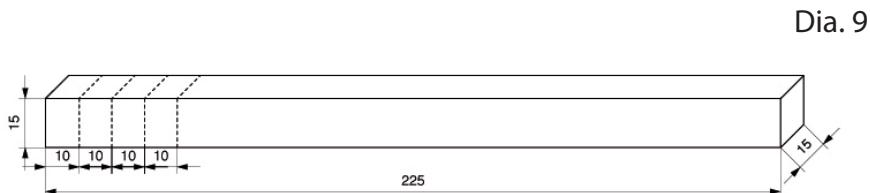


8. Mark out diagonals on the underneath of the head and drill the blind hole 5mm diameter x 5mm deep (Diagram 8)

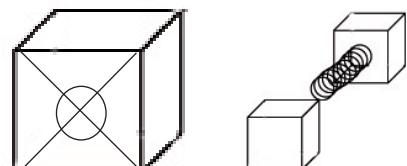


9. Making the arms

Mark out and saw 4 x 10mm pieces from the wooden strip 225 x 15mm x 15mm. Mark out diagonals on each of these pieces and drill a blind hole 5mm diameter x 5mm deep.
Insert the springs for the arms in each pair of the blocks (Diagram 9)



Dia. 9



Instructions

10. Final assembly

Add the head to the body with a short length of spring.

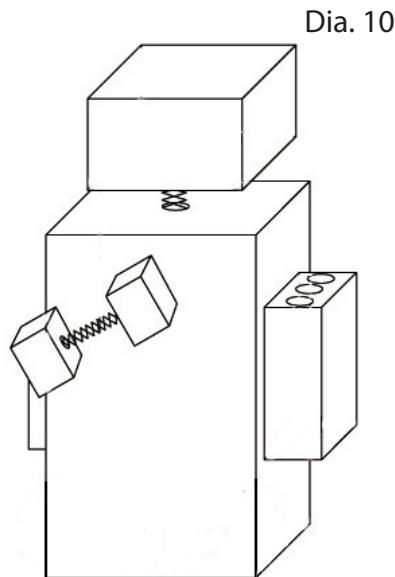
Glue the backpack for the pencils in place, making sure that the holes face upwards.

Glue the arms made in step 9 on to the sides of the Robot.

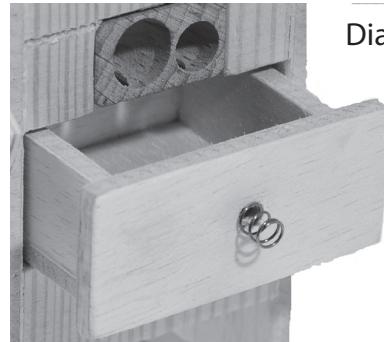
Assemble the pulley wheels in the tracks as shown and glue them in place on the sides of the Robot (Diagram 10)

Note:

Make sure that the pulley and tracks are equal both sides and that they protrude a little under the body of the Robot.



11. Place the drawer in the space under the pencil sharpener as shown. (Diagram 11)

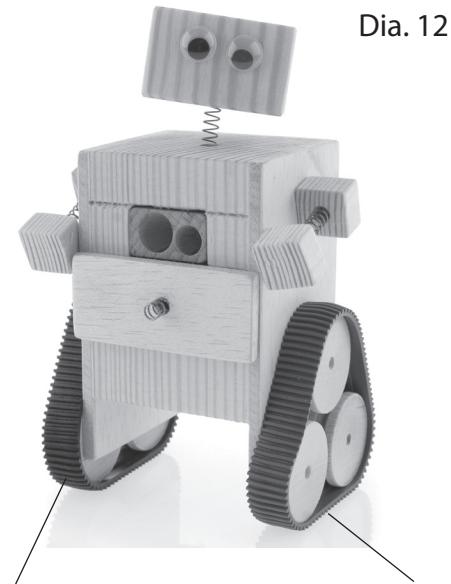


12. If you leave the finish natural glue the waggle eyes in place.

If you are painting your robot

Finish the decorating first then add the waggle eyes.

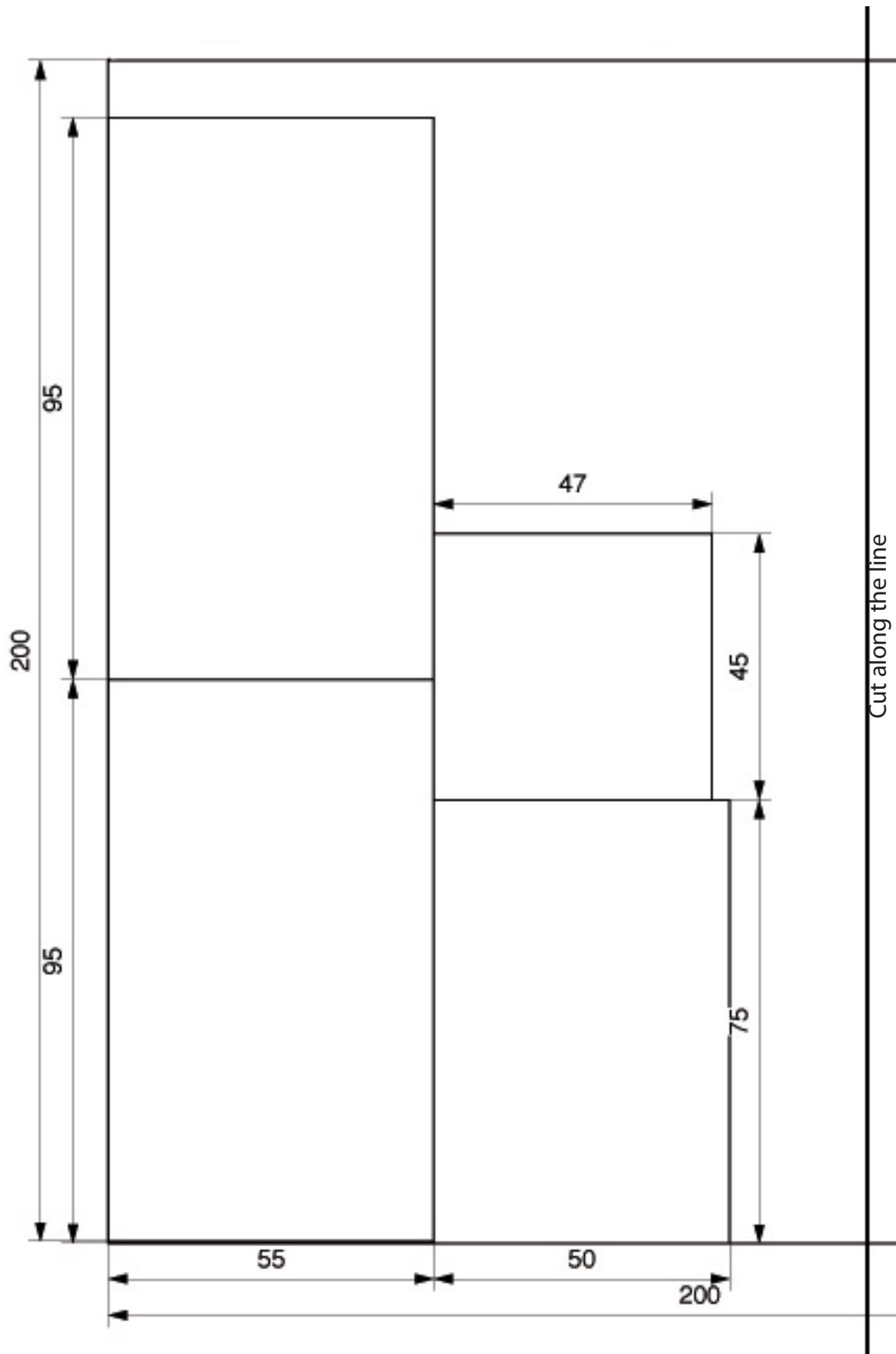
Your project is now finished!



The pulley wheels should be equal from the table top on both sides so that it stands square

Instructions

Patterns
Scale 1:1



Instructions

Patterns
Scale 1:1

