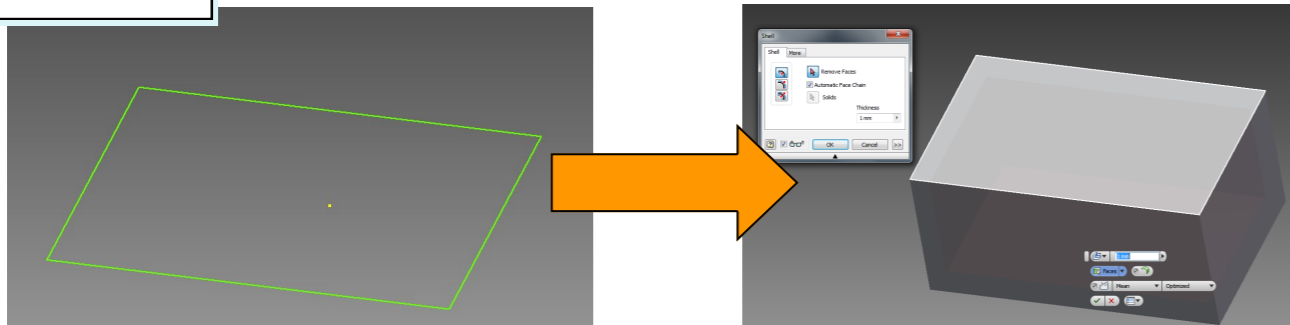


3D Modelling Homework Tutorials

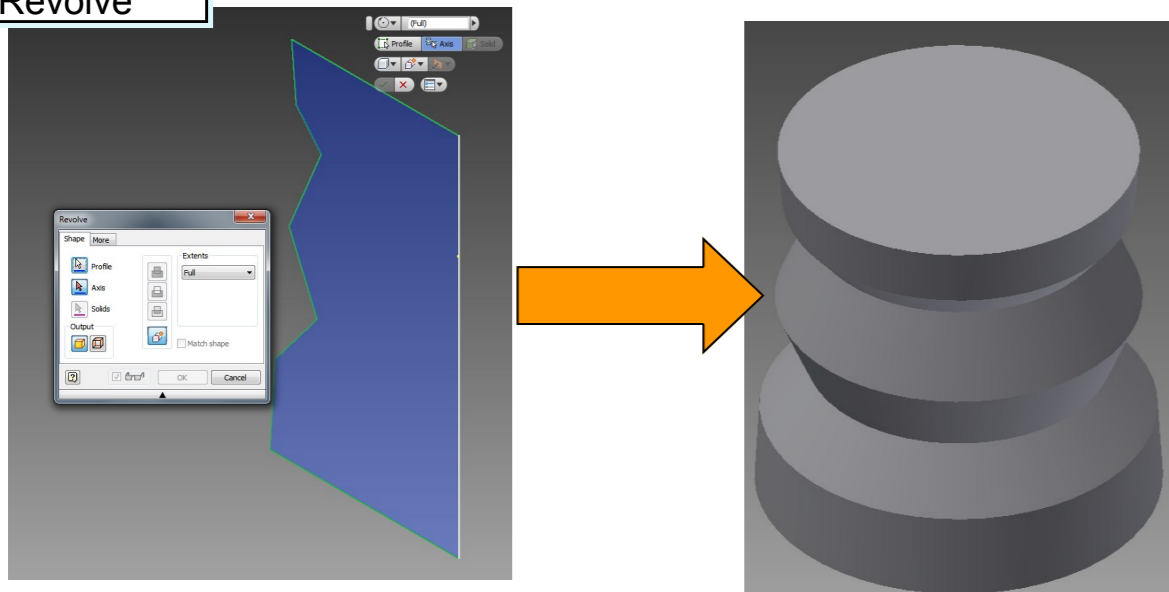
The following tutorials require you to apply your knowledge of 3D modelling. Look at each **Production Drawing** carefully and describe the processes required, using sketches to support your answers. The techniques and edits you need to know are shown on this page, and more detailed explanation is provided within the **Revision Booklet**.

Techniques:

Extrusion

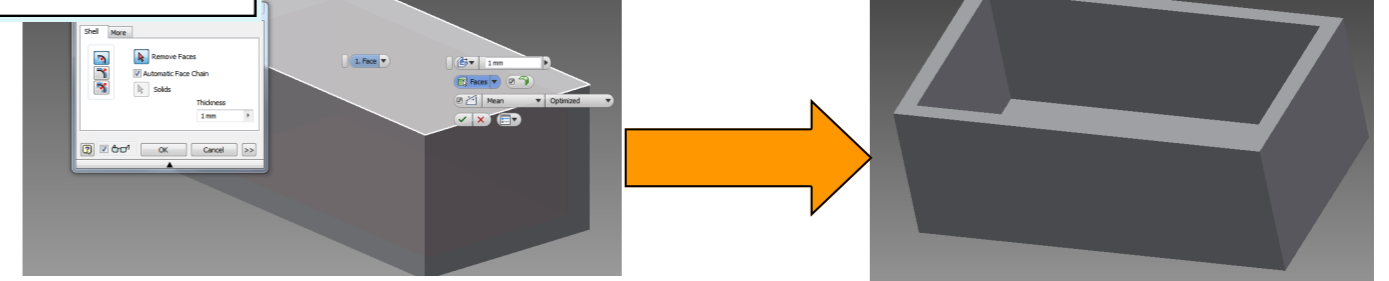


Revolve

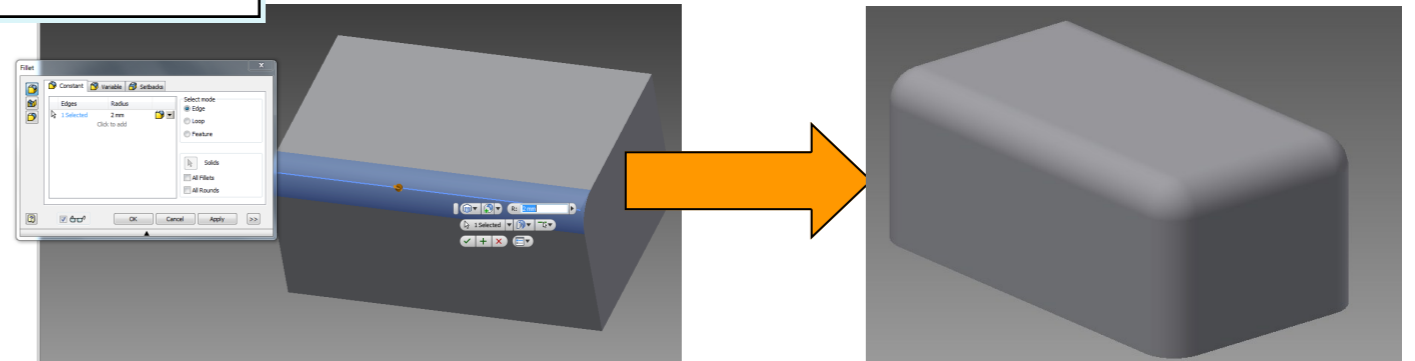


Edits:

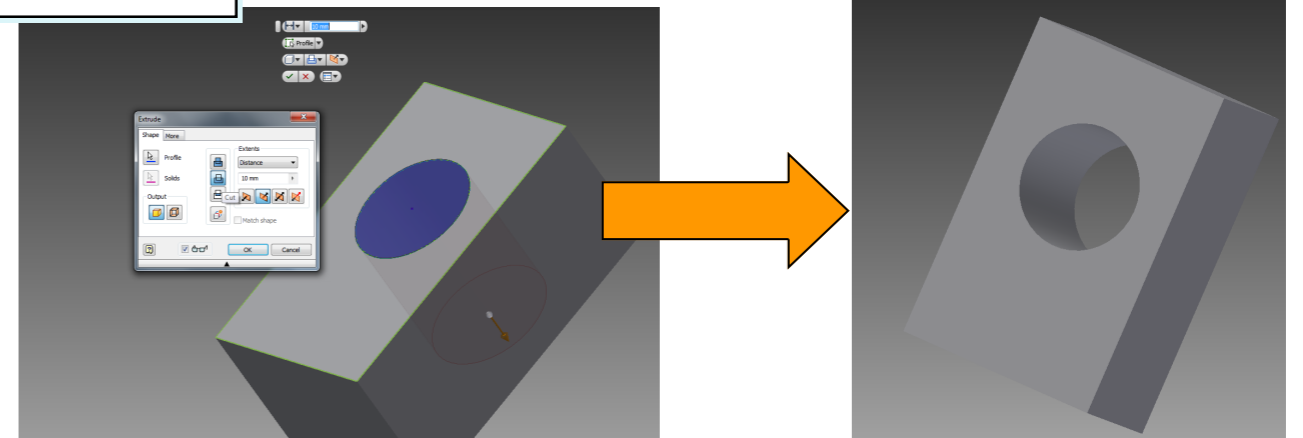
Shell



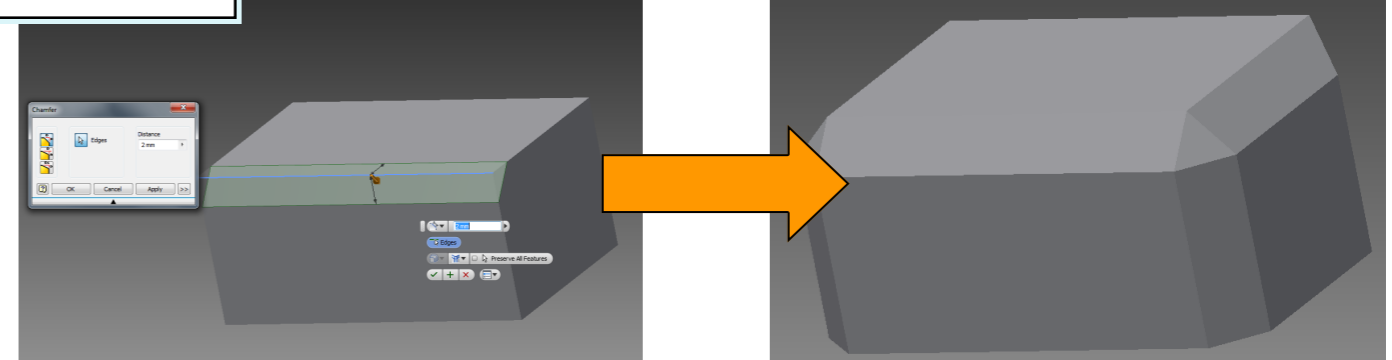
Fillet



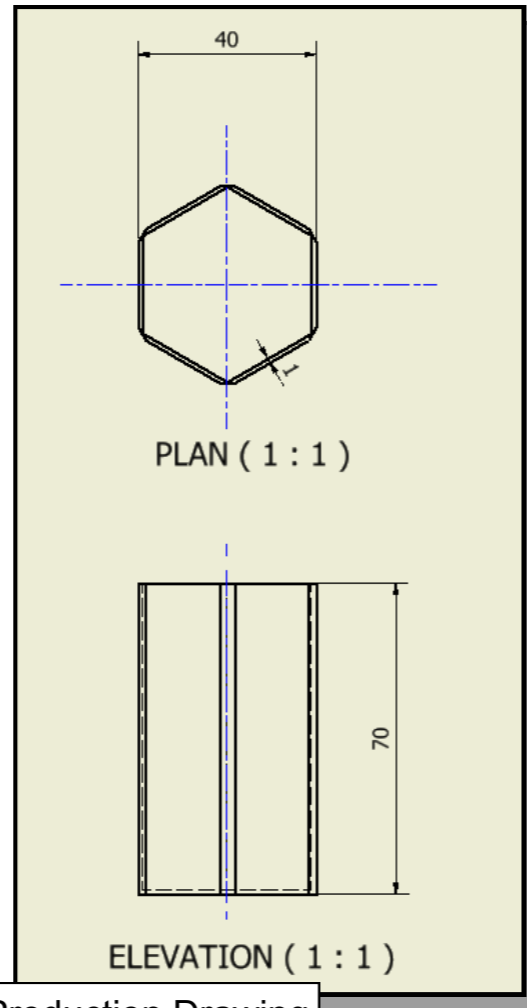
Subtraction



Chamfer



Describe, with reference to the dimensions on the Production Drawing, how each stage results in the production of the 3D model below. Support your answer with sketches.



Production Drawing

Description of model production:

Stage 1:

.....

Stage 2:

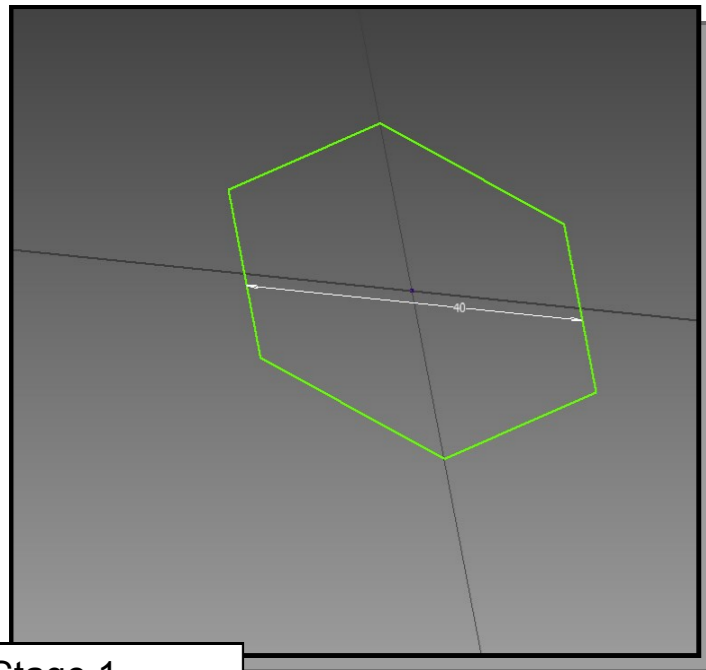
.....

Stage 3:

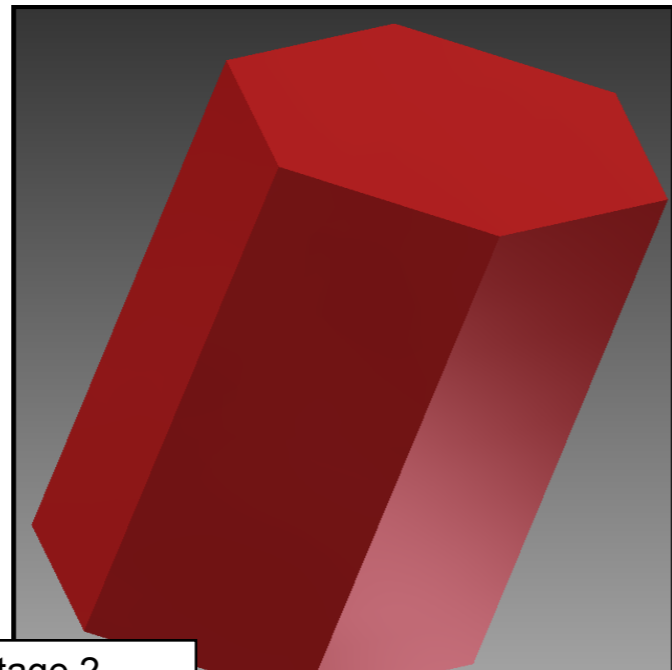
.....

Stage 4:

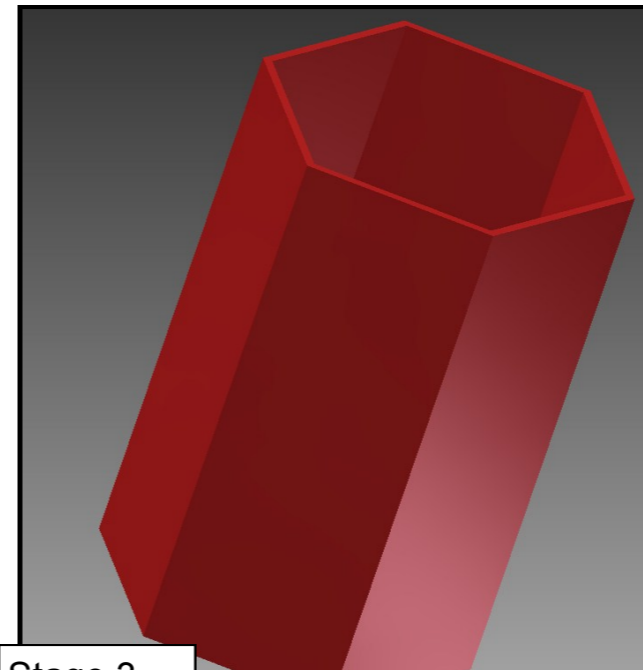
.....



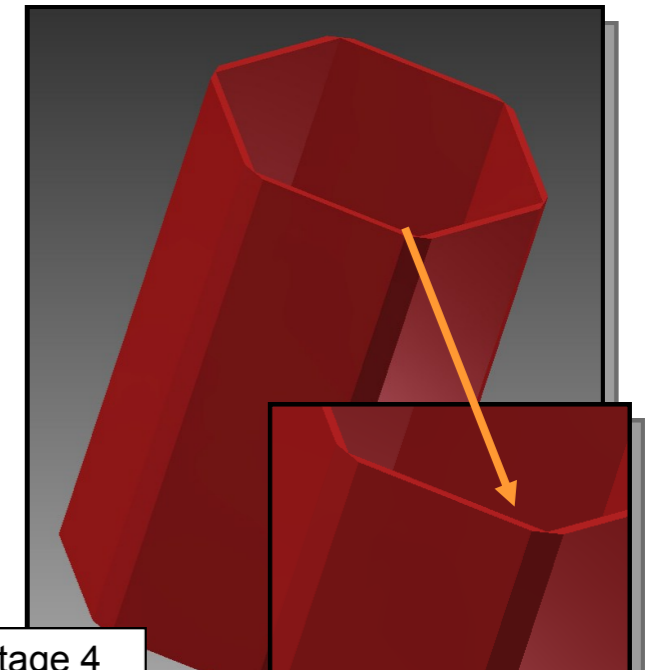
Stage 1



Stage 2

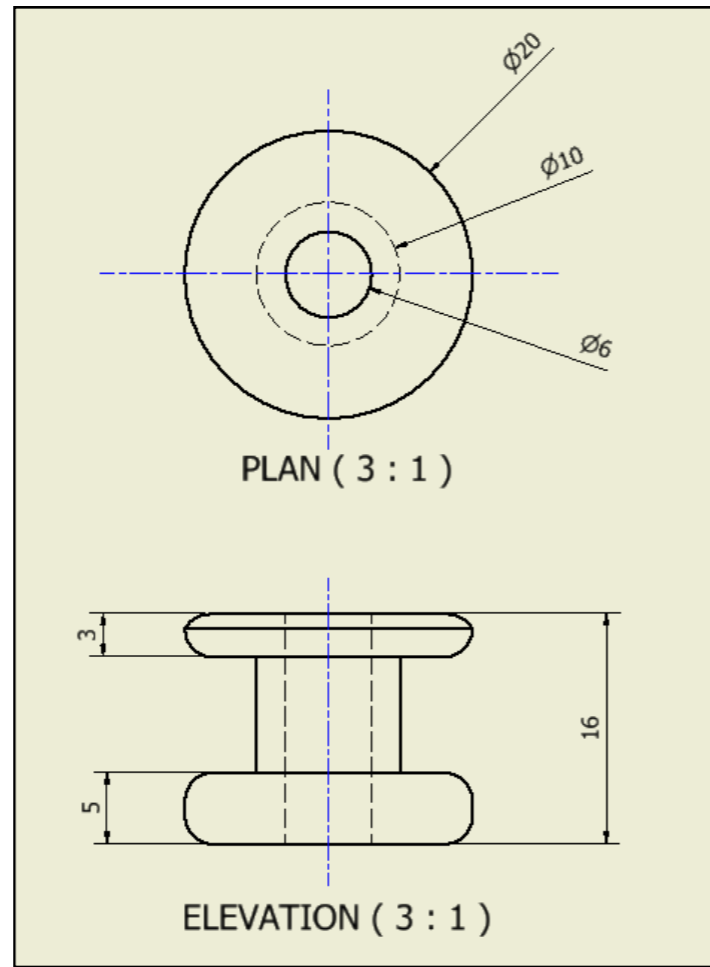


Stage 3



Stage 4

Describe, with reference to the dimensions on the Production Drawing, how each stage results in the production of the 3D model below. Support your answer with sketches.



Description of model production:

Stage 1:

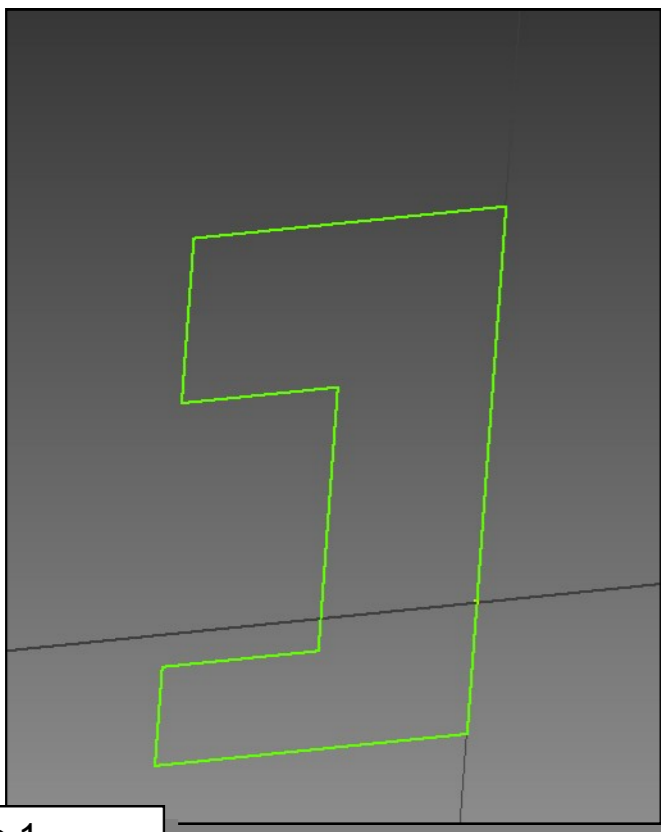
.....
.....

Stage 2:

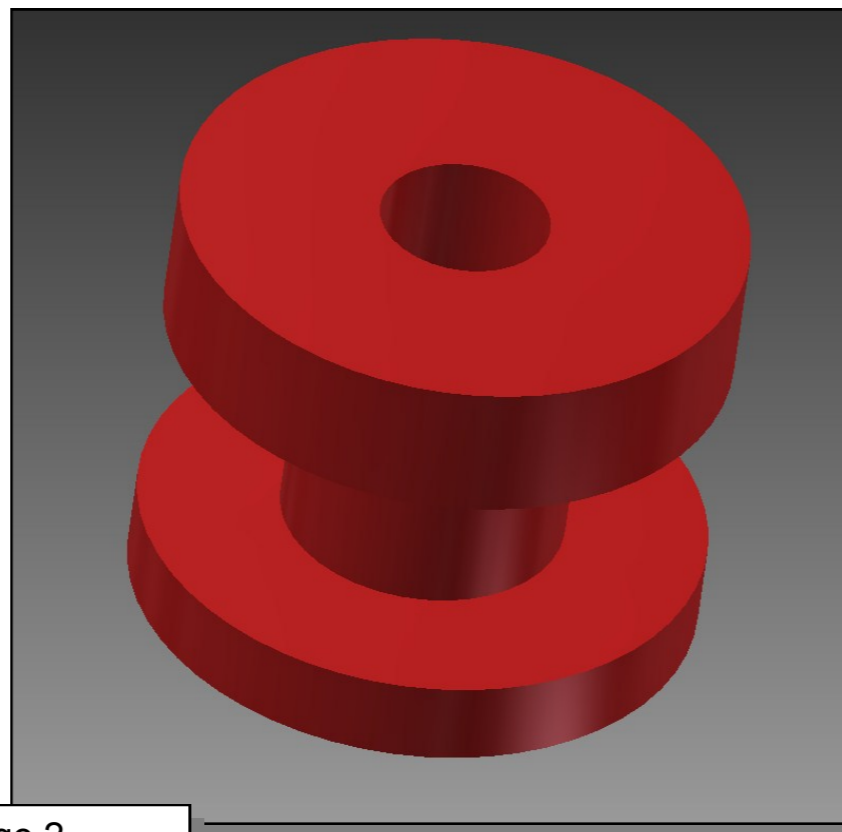
.....
.....

Stage 3:

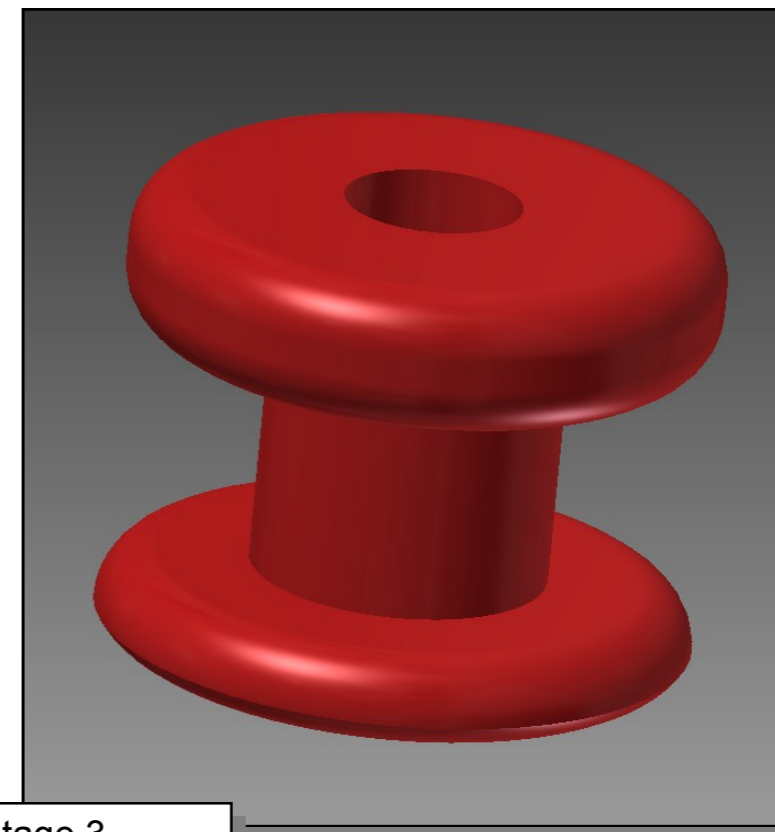
.....
.....



Stage 1

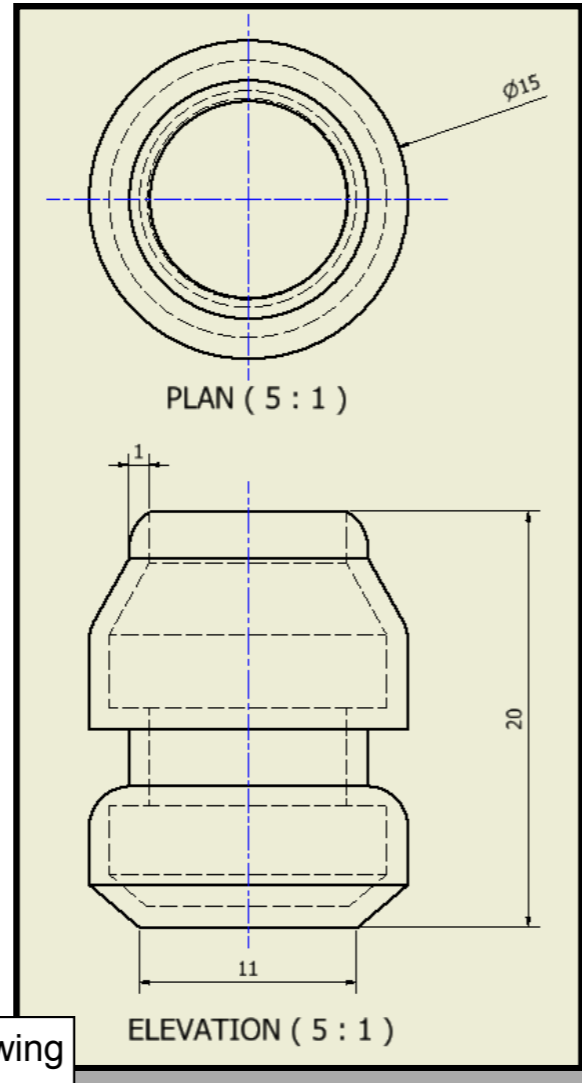


Stage 2



Stage 3

Describe, with reference to the dimensions on the Production Drawing, how each stage results in the production of the 3D model below. Support your answer with sketches. **Note: As there are several circles involved in the model, only refer to those which have been dimensioned in the production drawing.**



Production Drawing

Description of model production:

Stage 1:

.....

Stage 2:

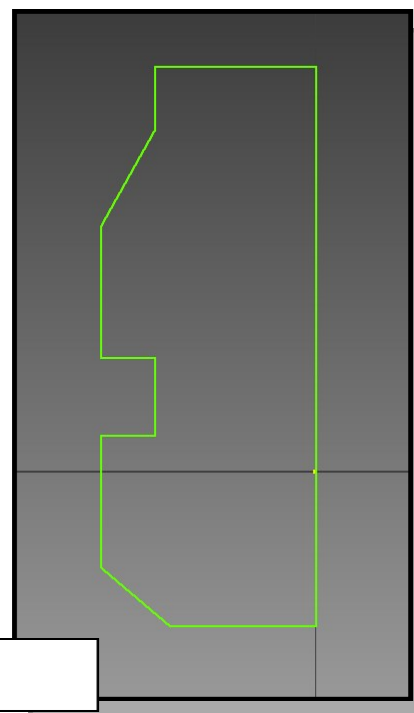
.....

Stage 3:

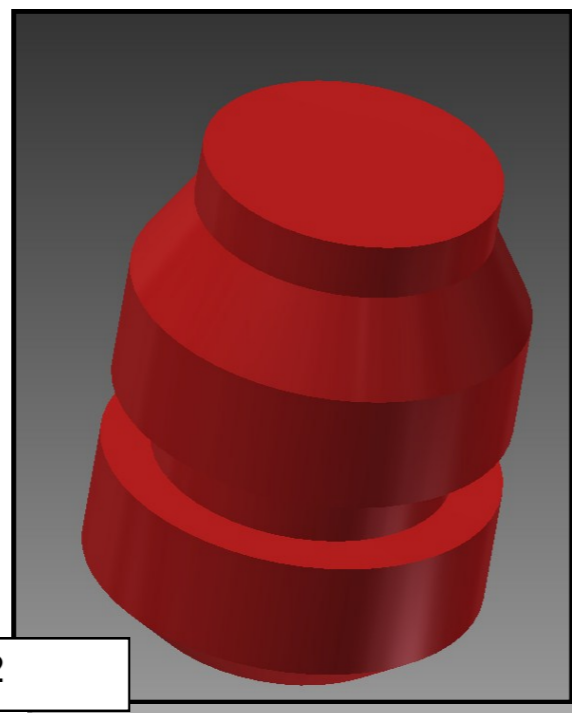
.....

Stage 4:

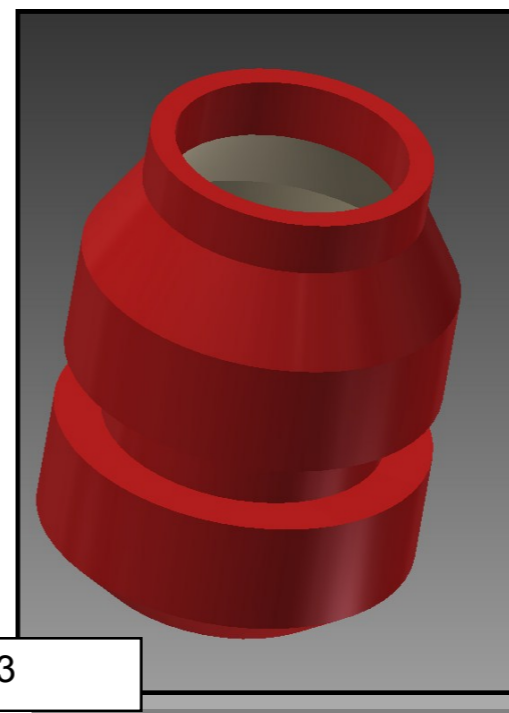
.....



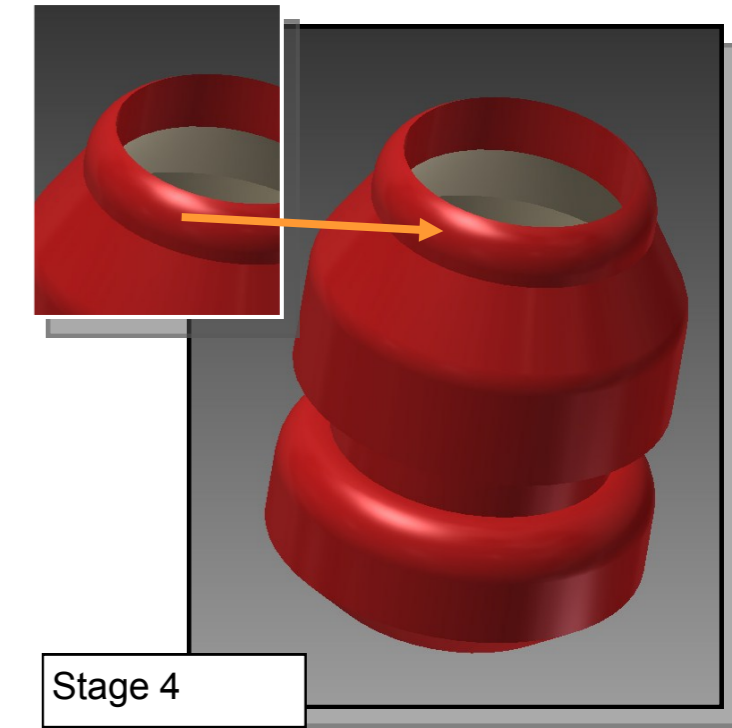
Stage 1



Stage 2

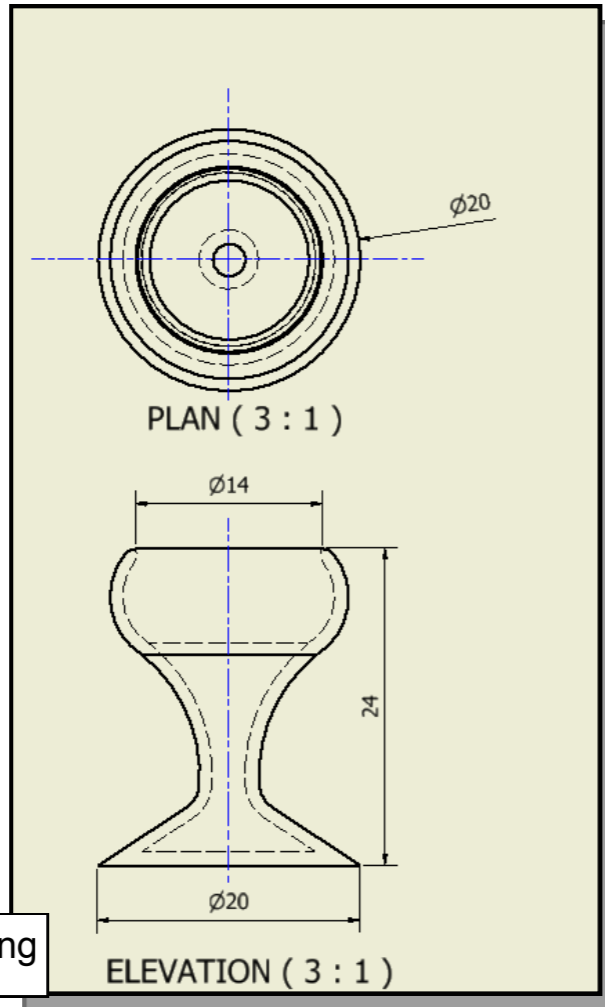


Stage 3



Stage 4

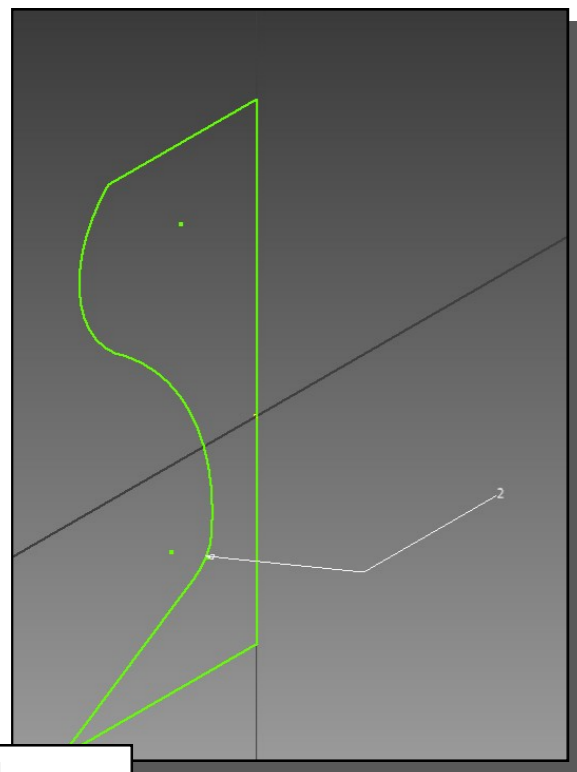
Describe, with reference to the dimensions on the Production Drawing, how each stage results in the production of the 3D model below. Support your answer with sketches.



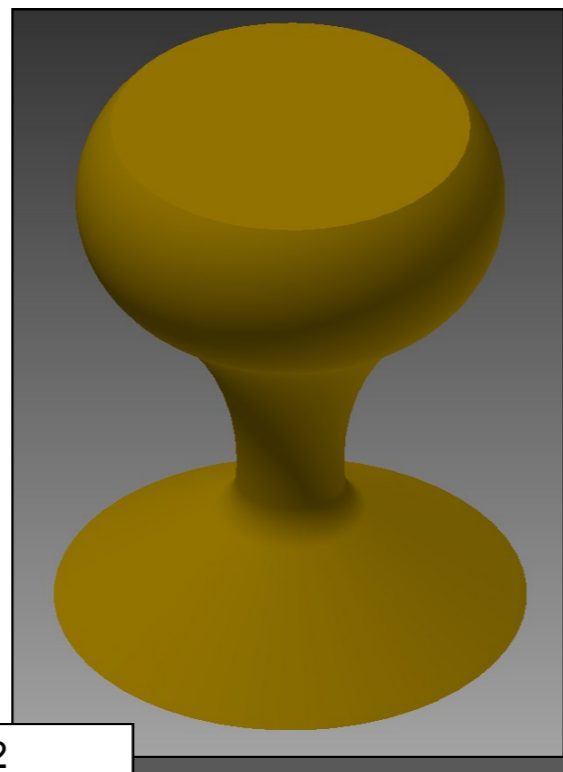
Production Drawing

Description of model production:

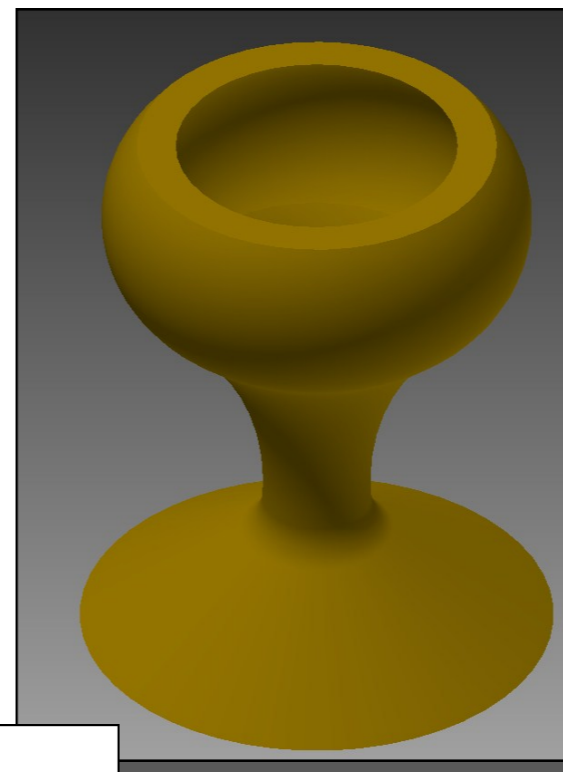
-
- Stage 1:**
-
-
- Stage 2:**
-
-
- Stage 3:**
-
-
- Stage 4:**
-



Stage 1



Stage 2



Stage 3

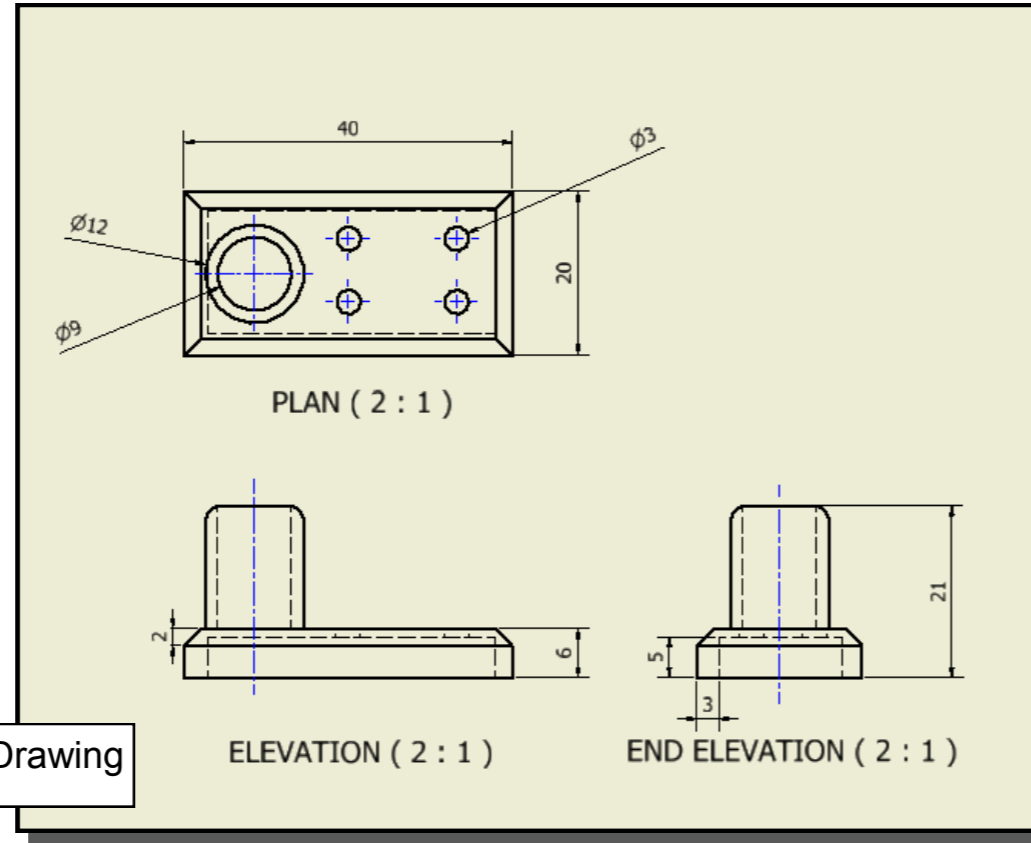


Stage 4

Tutorial 5

Describe, with reference to the dimensions on the Production Drawing, how each stage results in the production of the 3D model of an engineering part below. Support your answer with sketches. *Note: try to split it into the separate stages like you did in the previous tutorials.*

Production Drawing



Description of model production:

Stage 1:

.....
.....

Stage 2:

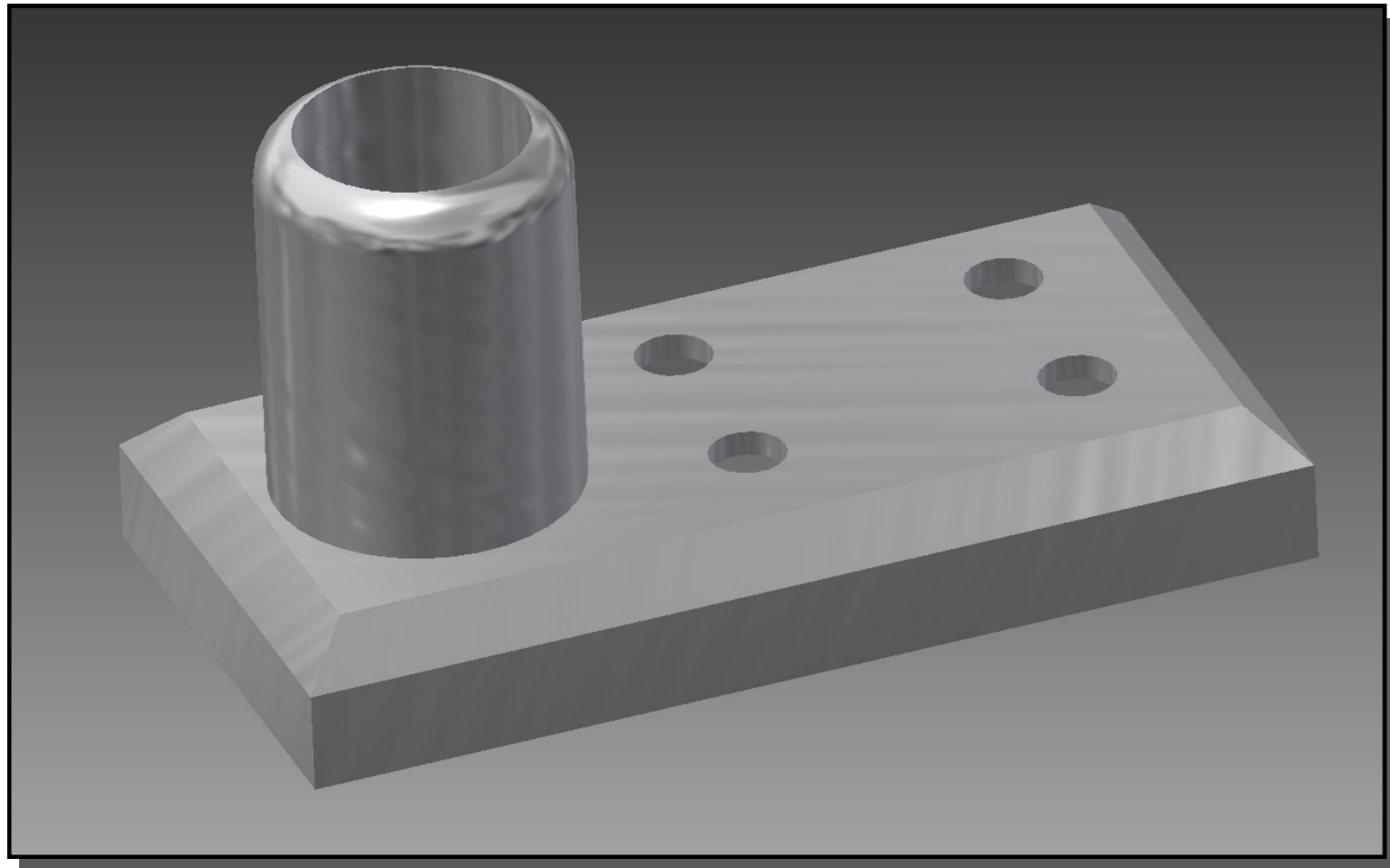
.....
.....

Stage 3:

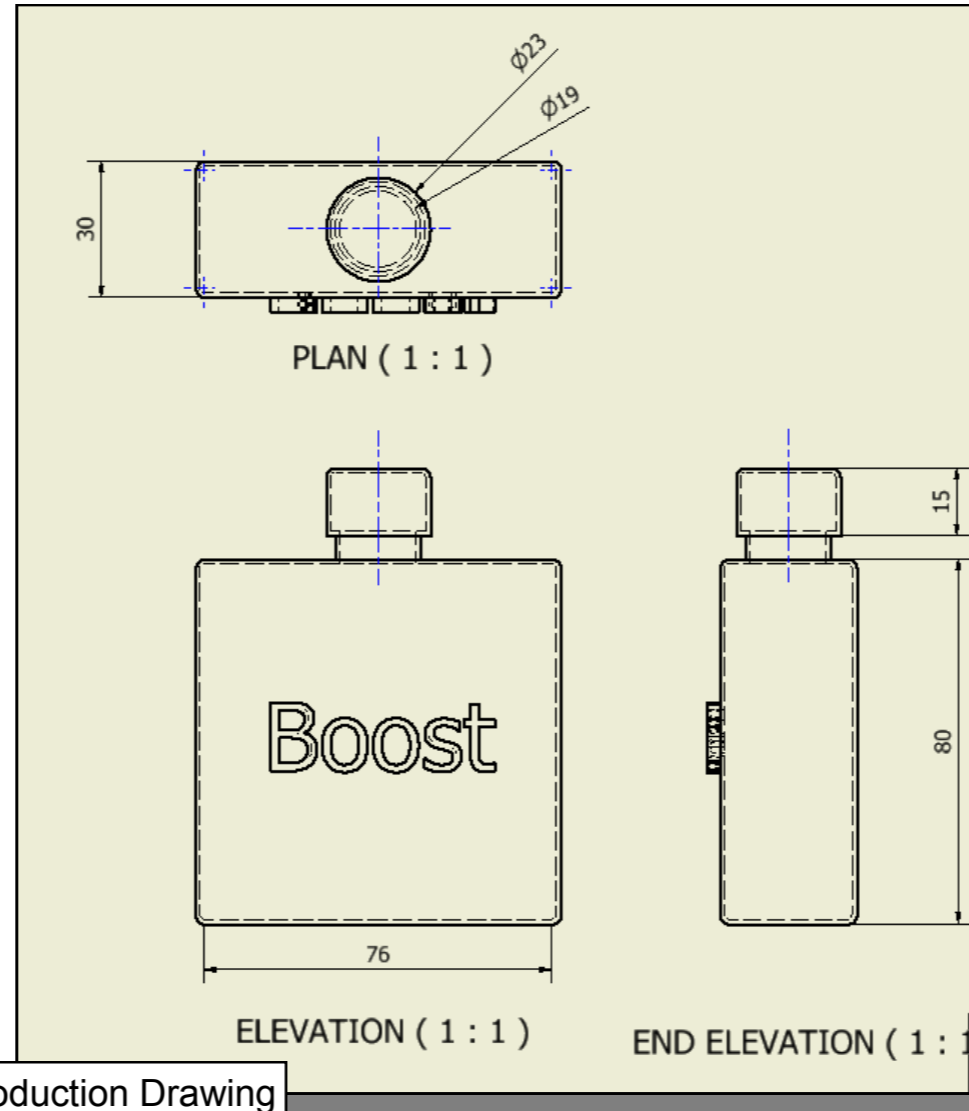
.....
.....

Stage 4:

.....
.....



Describe, with reference to the dimensions on the Production Drawing, how each stage results in the production of the 3D model of an after-shave bottle below. Support your answer with sketches. *Note: try to split it into the separate stages like you did in the previous tutorials.*

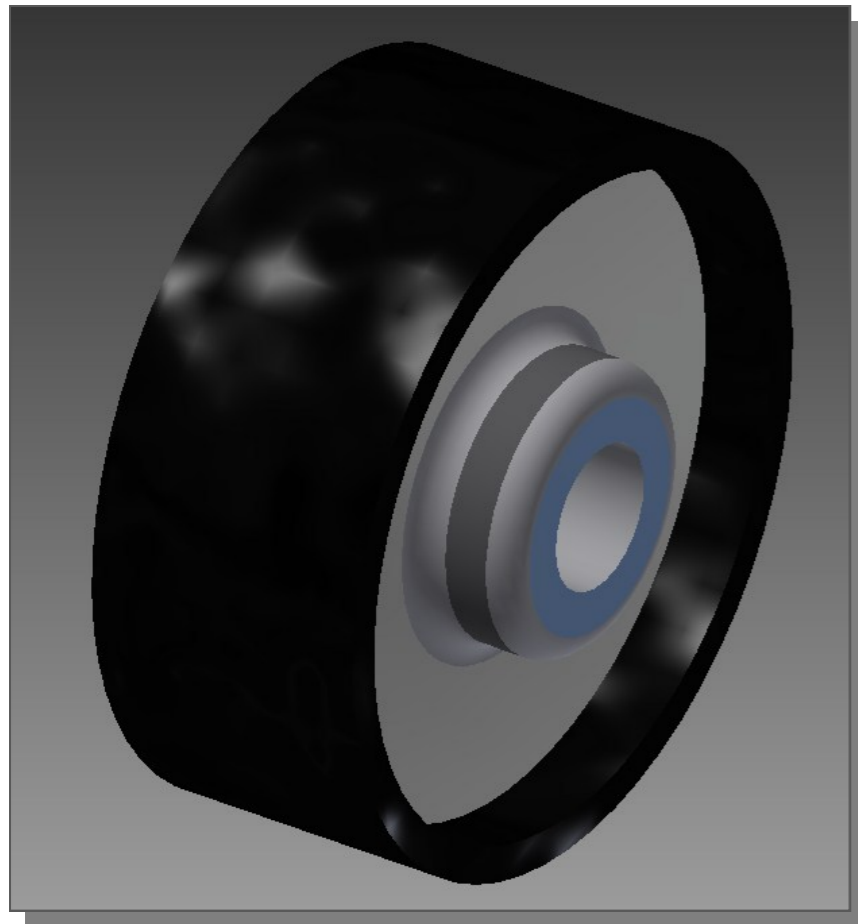
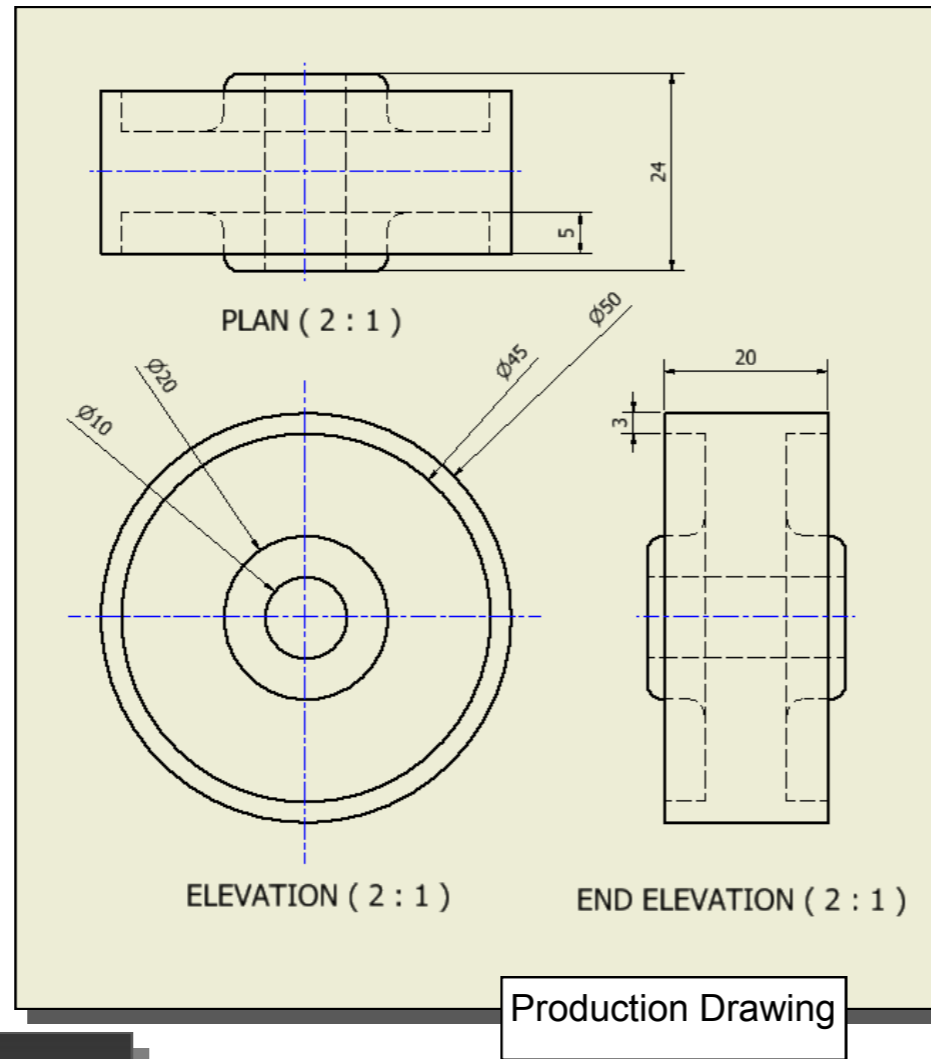


Production Drawing

Description of model production:

-
- Stage 1:
-
-
- Stage 2:
-
-
- Stage 3:
-
-
- Stage 4:
-
-

Describe, with reference to the dimensions on the Production Drawing, how each stage results in the production of the 3D model of a pulley wheel shown below. Support your answer with sketches. *Note: try to split it into the separate stages like you did in the previous tutorials.*



Description of model production:

Stage 1:

.....
.....

Stage 2:

.....
.....

Stage 3:

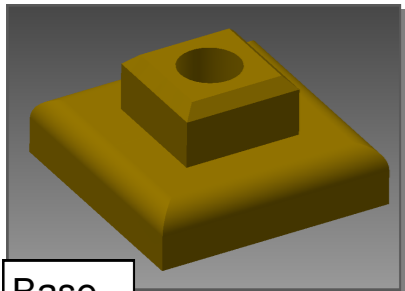
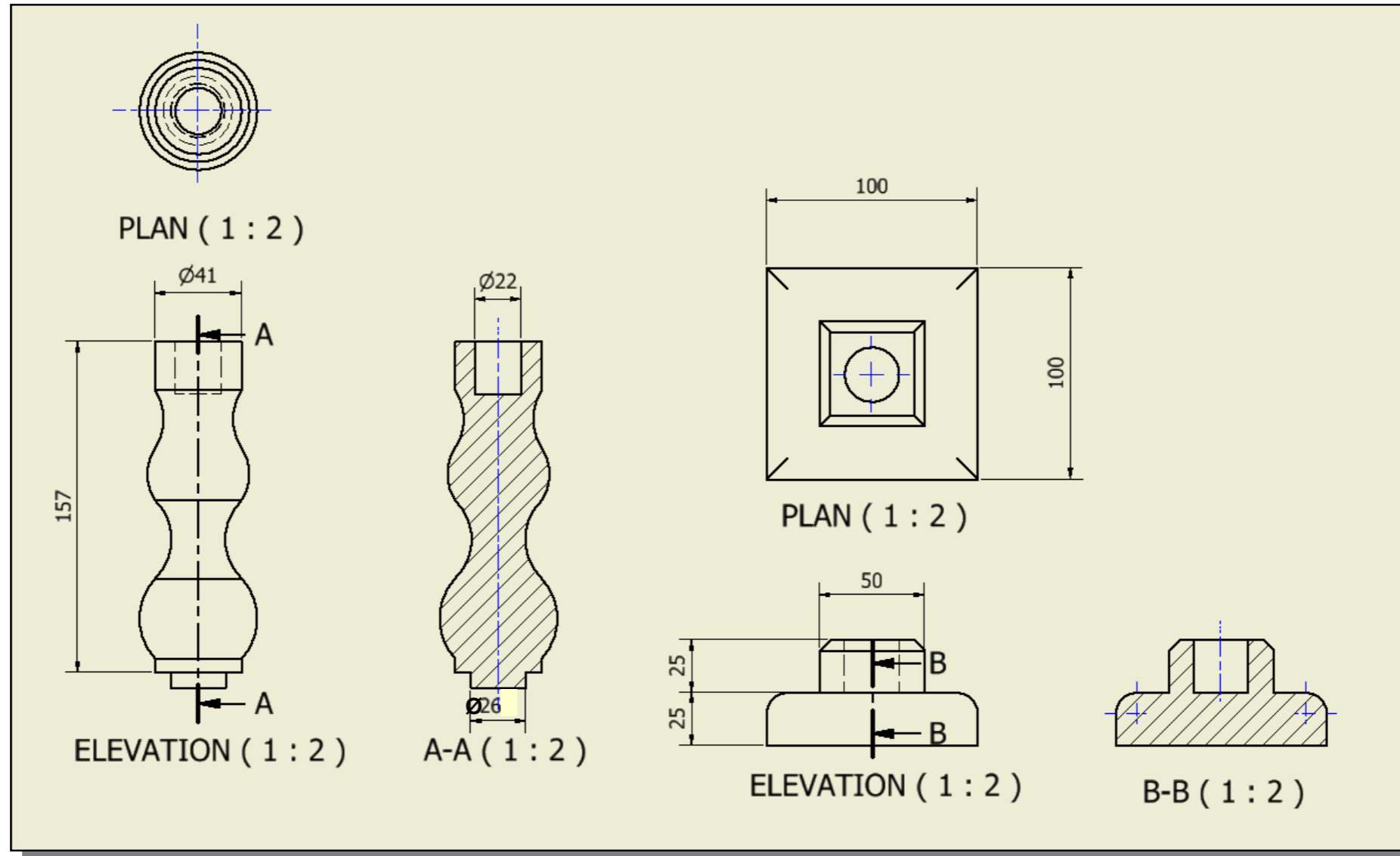
.....
.....

Stage 4:

.....
.....

Describe, with reference to the dimensions on the Production Drawing, how each stage results in the production of the 3D model of the table light stand below. Support your answer with sketches. Describe how the parts would be put together to form an ASSEMBLY.

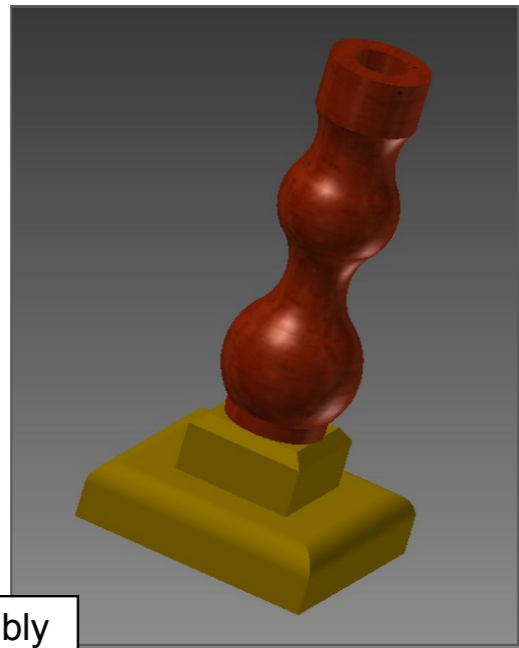
NOTE: ARRIVE AT A SUITABLE SIZE FOR THE HOLE IN THE BASE WHICH HOUSES THE VERTICAL STAND.



Base



Vertical stand



Assembly

Description of model production:

-

Stage 1: Stage 4:

.....

.....

Stage 2:

.....

.....

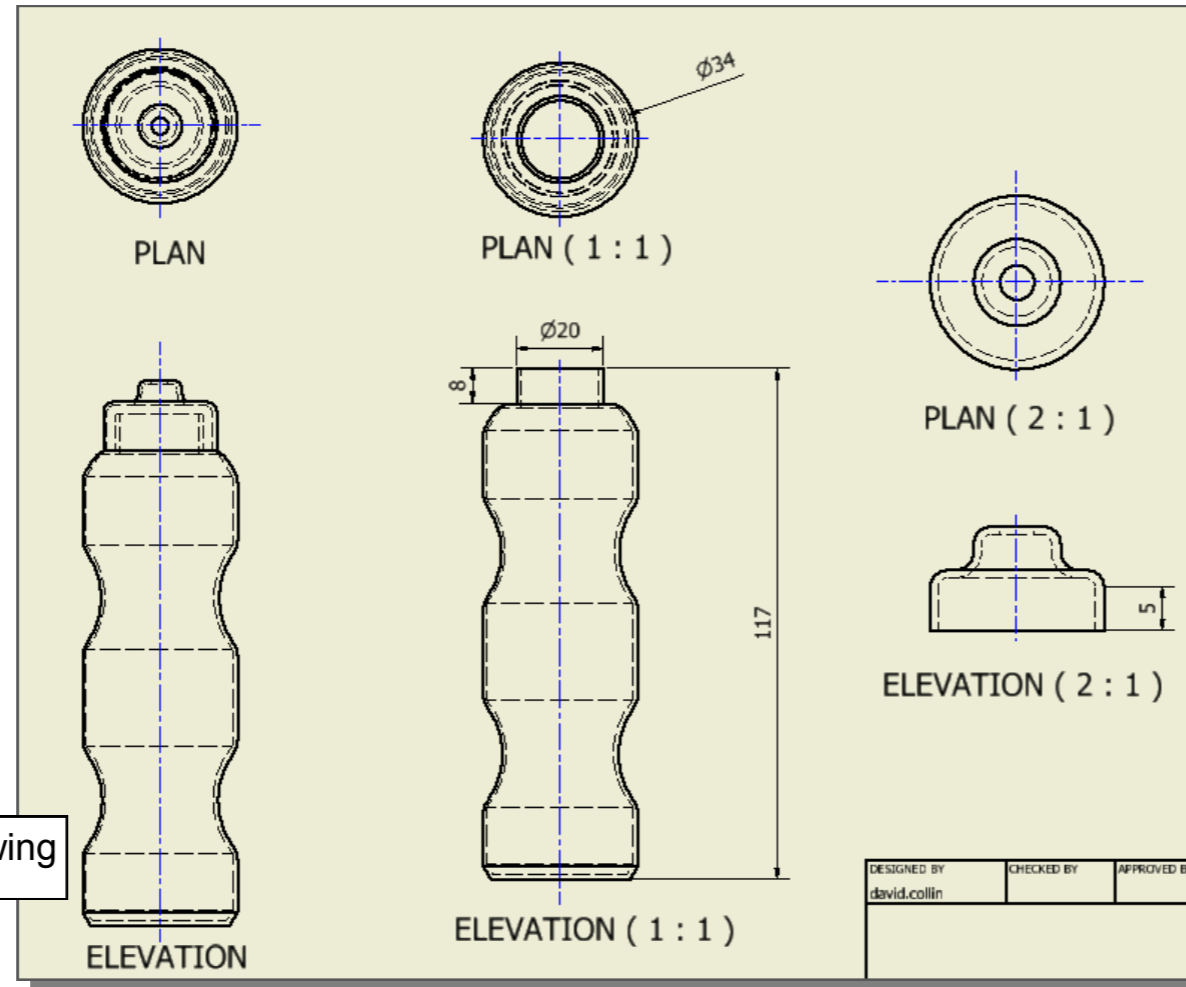
Stage 3:

.....

.....

Tutorial 9

Describe, with reference to the dimensions on the Production Drawing, how each stage results in the production of the 3D model of the sports drink bottle below. *ARRIVE at suitable sizes for the bottle lid which allow it to fit on the bottle itself. Describe how the bottle and lid are assembled together.* Support your answer with sketches.



Production Drawing

Description of model production:

Stage 1:

.....

Stage 2:

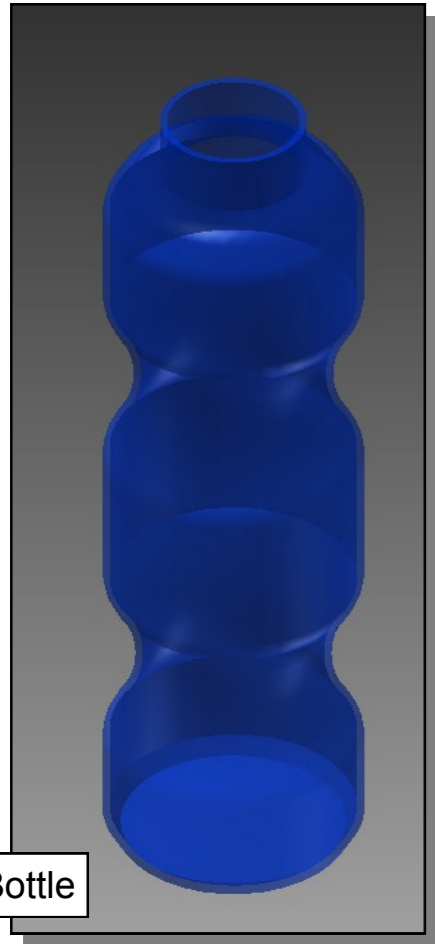
.....

Stage 3:

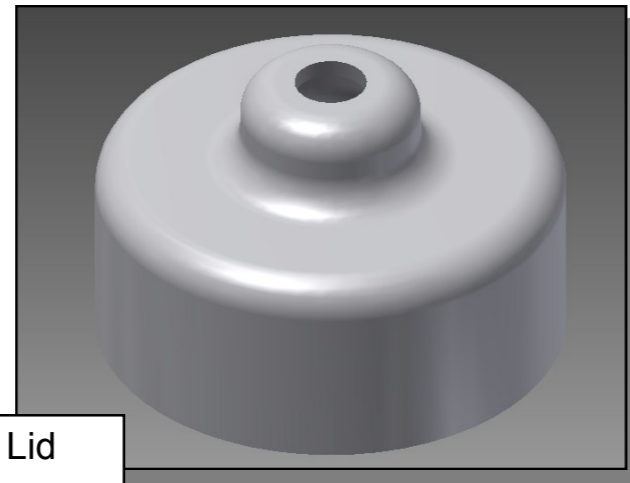
.....

Stage 4:

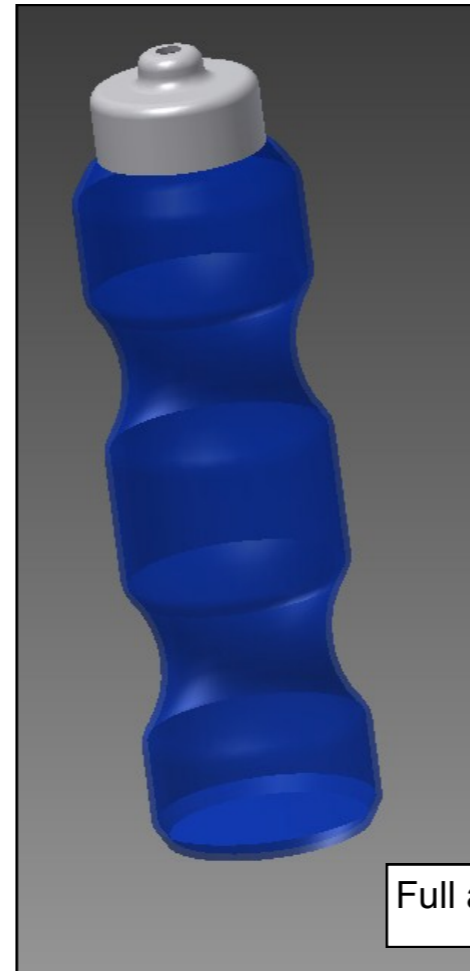
.....



Bottle



Lid



Full assembly

Describe, with reference to the dimensions on the Production Drawing, how each stage results in the production of the 3D model of the wooden clock below. **Add suitably-sized hands and describe how you would make them as a 3D model— including dimensions. Describe how the clock is assembled.** Support your answer with sketches.

S2 CLOCK
SCALE 1:4

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	Clock Face	PLYWOOD
2	2	Facings	PINE
3	2	Internal Fillets	PINE
4	2	Side Rails	PINE
5	2	Top/ Bottom Rail	PINE

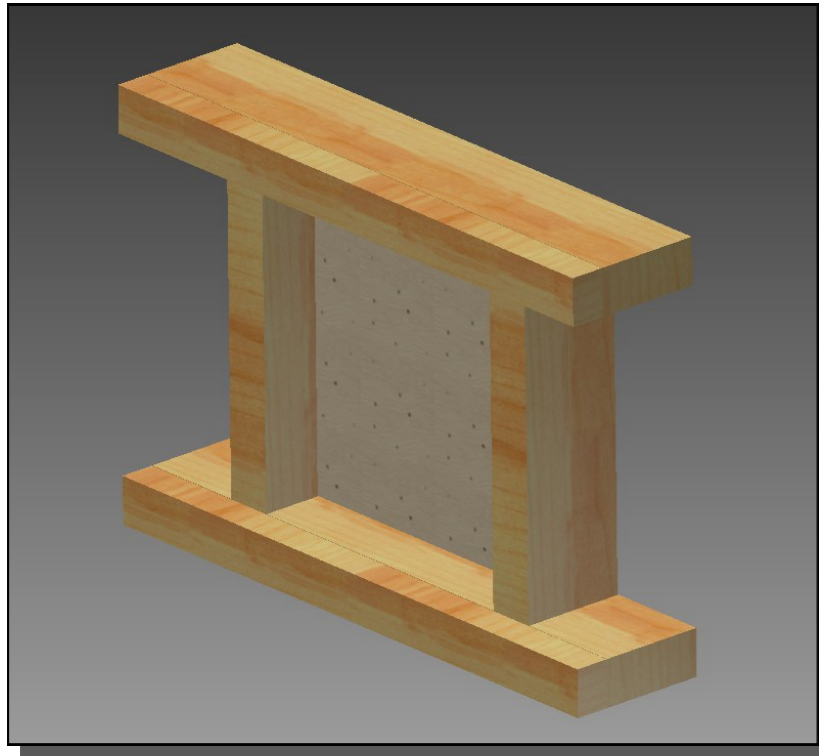
CLOCK FACE
SCALE 1:4

SIDE RAILS
SCALE 1:4

FACING
SCALE 1:4

INTERNAL FILLET
SCALE 1:4

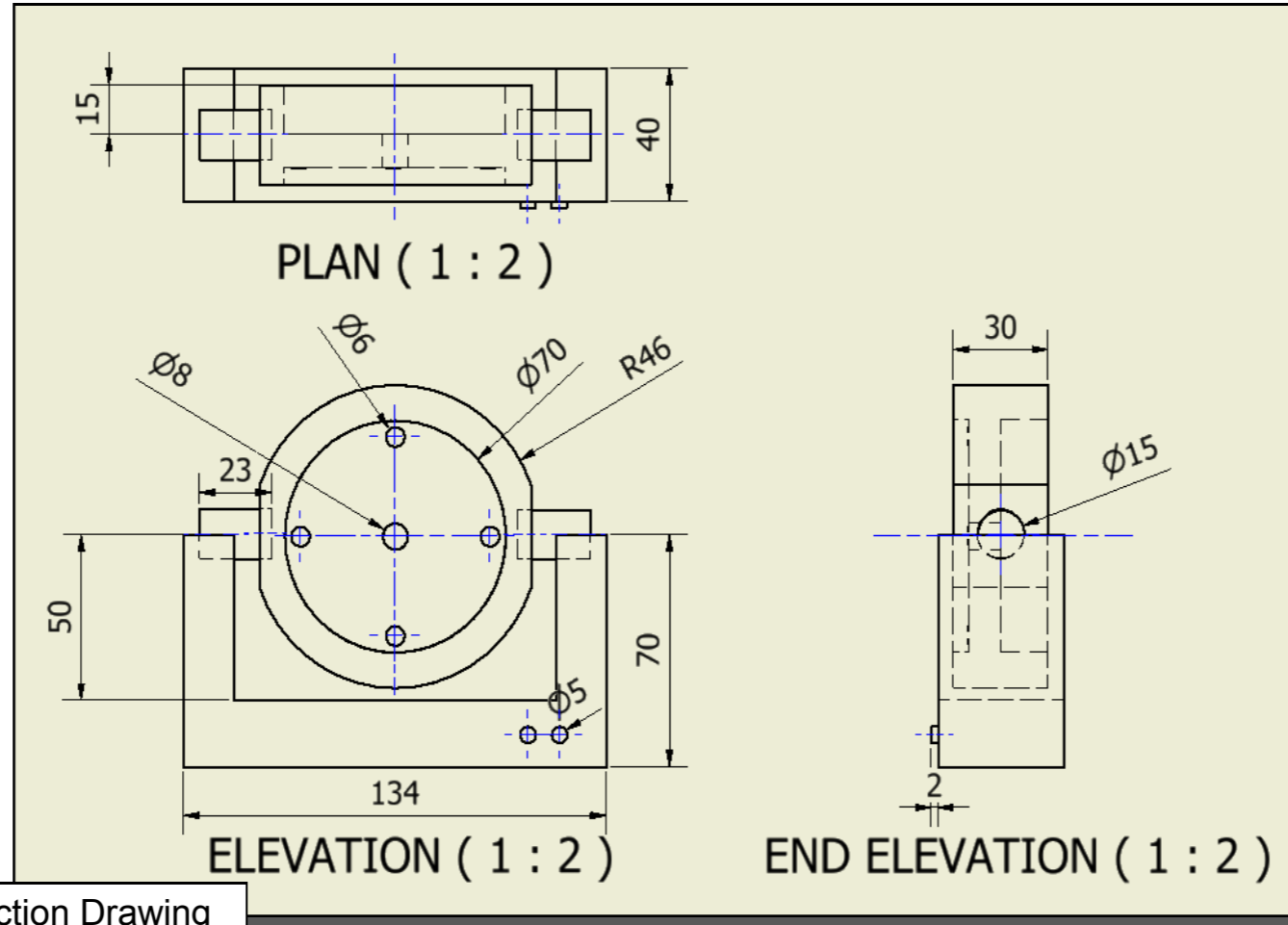
TOP/ BOTTOM RAIL
SCALE 1:4



Description of model production:

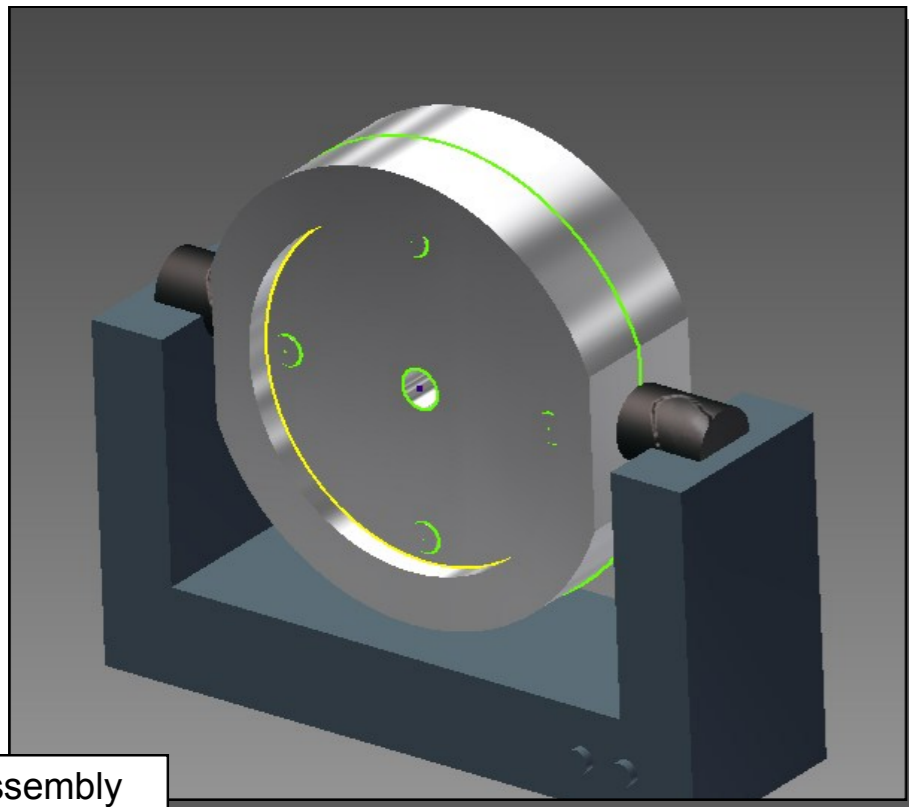
Blank area for the description of model production.

Describe, with reference to the dimensions on the Production Drawing, how each stage results in the production of the 3D model of the metal alarm clock below. below. *Design and build a model of a clock mechanism and hands to fit in the clock.*— include dimensions. Describe how the clock is assembled together. Support your answer with sketches.

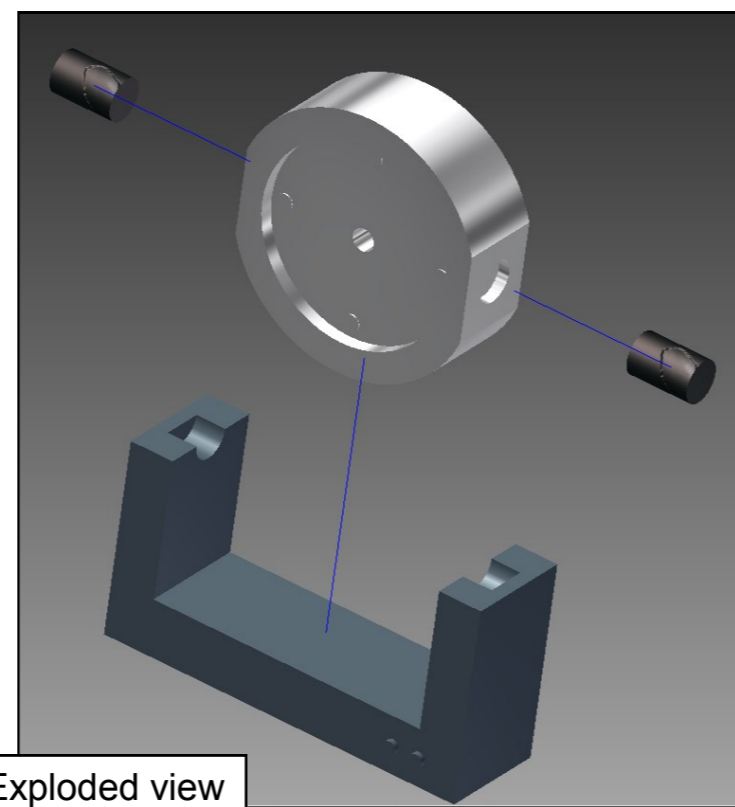


Production Drawing

Description of model production:

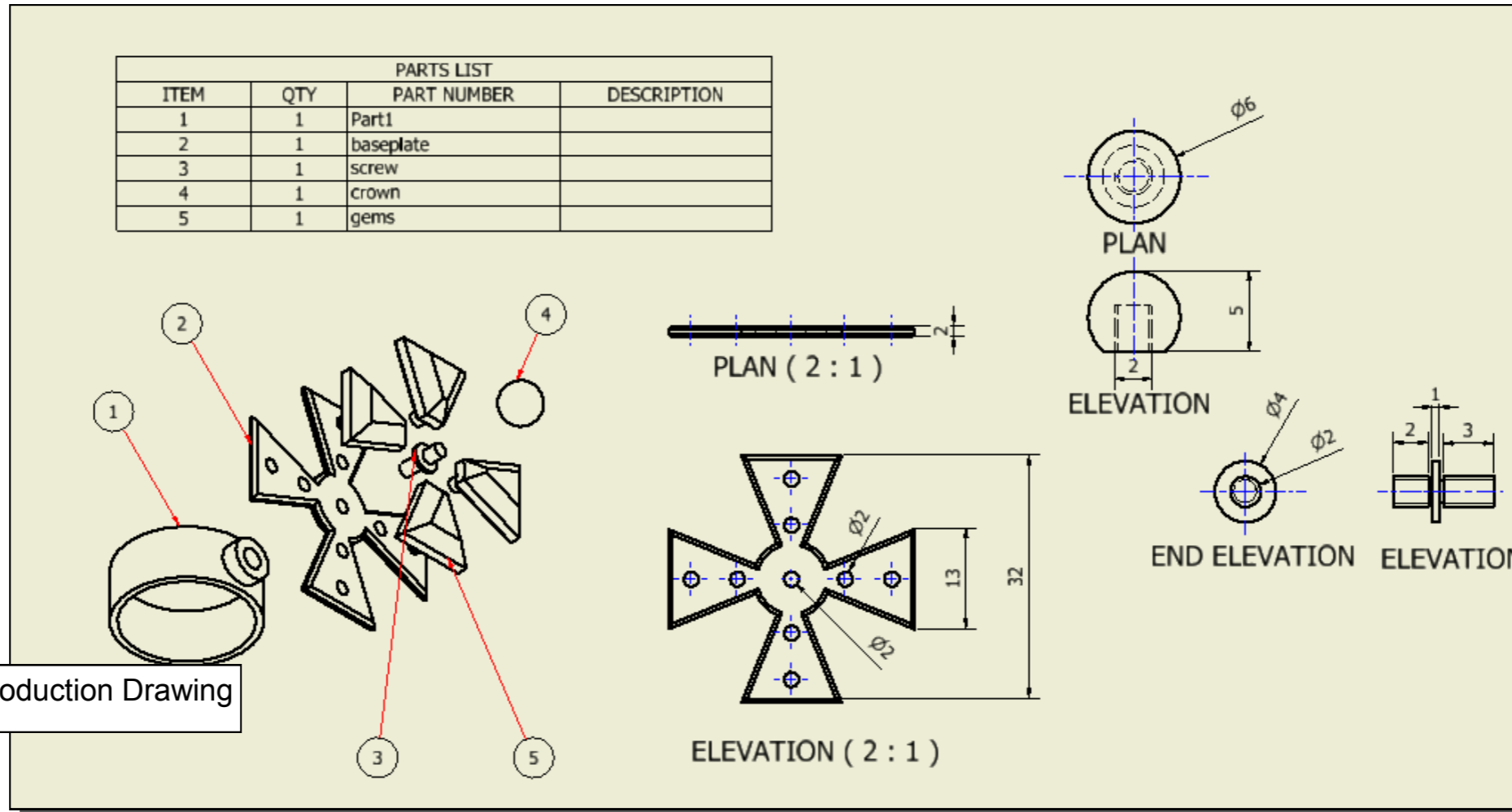


Assembly



Exploded view

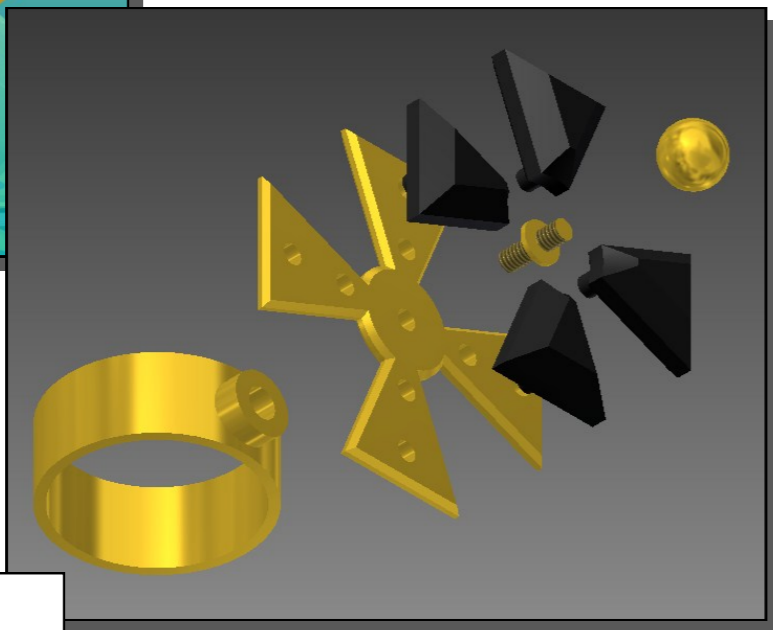
Describe, with reference to the dimensions on the Production Drawing, how each stage results in the production of the 3D model of the ladies' ring below. *Design and build a box to hold it in and describe how you would achieve this— include dimensions. Describe how the ring and its parts are assembled together.* Support your answer with sketches.



Production Drawing



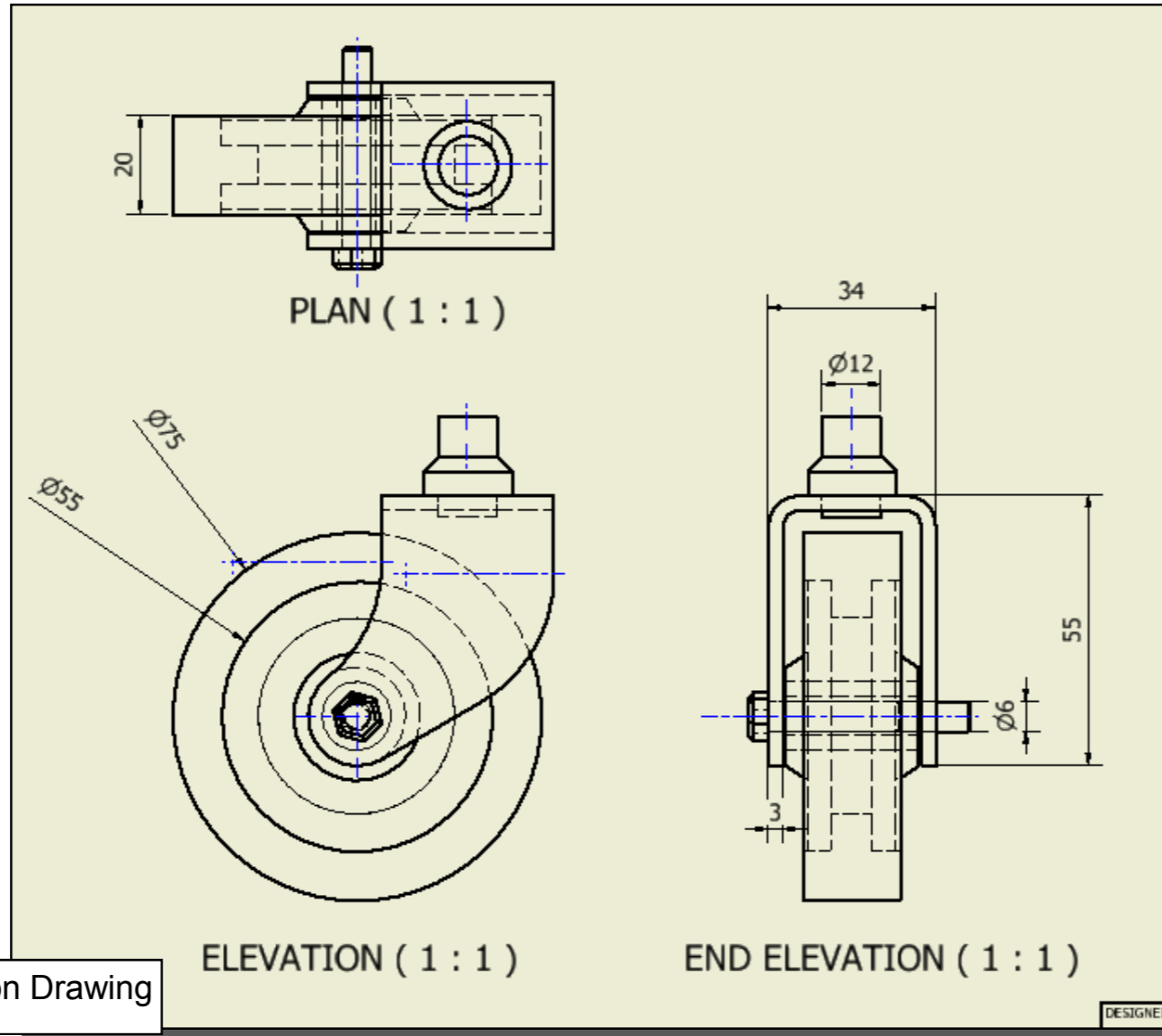
Assembly



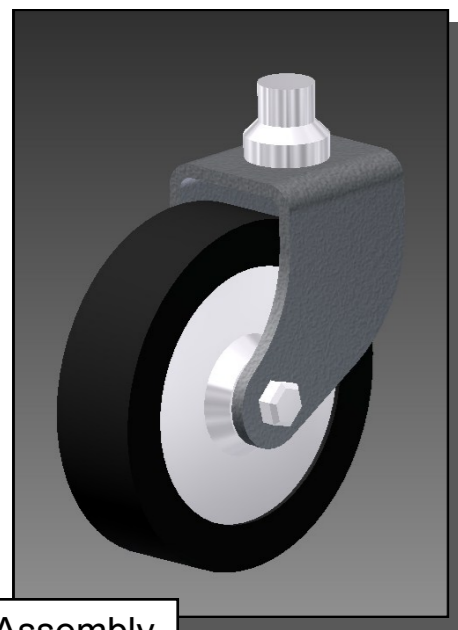
Exploded view

Description of model production:

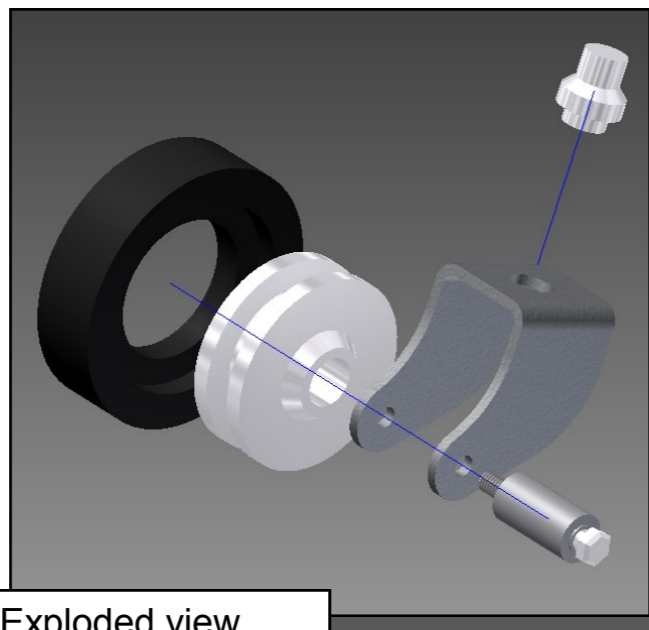
Describe, with reference to the dimensions on the Production Drawing, how each stage results in the production of the 3D model of the trolley wheel assembly below. **ARRIVE at suitable sizes for the parts which are not dimensioned on the production drawing.** Describe how the full model is assembled. Support your answer with sketches.



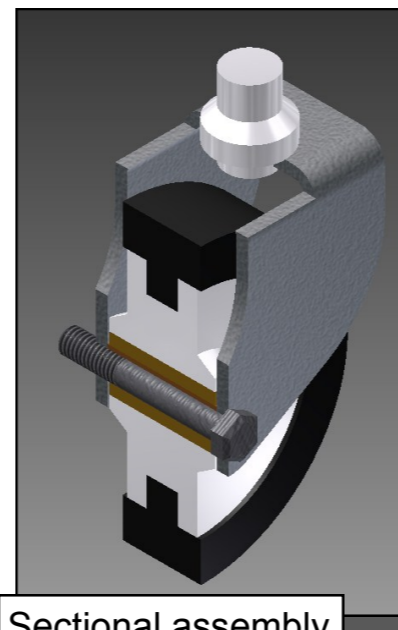
Description of model production:



Assembly



Exploded view



Sectional assembly