HW 3 Sketching Examples

F22

Pre-CAD Final Products -- (use the Pre-CAD template or create your own but keep text brief)

Initial Assumptions: Charger base. I'm drawing it as if it's a singular solid part

Bulleted Feature Creation Steps (Ex: 1. Top plane Extrude Boss; 2. Right plane Revolve Cut; 3. Face Chamfer; 4. Pattern; 5. Mirror about new Plane 1):

1. Top Plane extruded boss
2. F1 Top plane extruded boss
3. Right Plane extruded cut
4.
5.
6.

More Details on Primary Features

From Step (#): 1

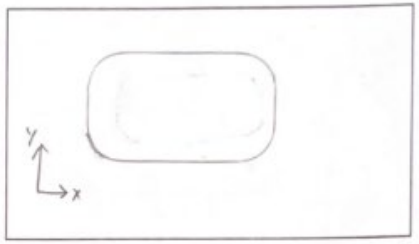
Sketch Plane: TOP

3D Feature type: Extruded boss

Key Feature Details (dimensions/end conditions):

w: 1.5 in Extrude length: 1.85

h: .85



2D Sketch(es) from 1st primary feature

From Step (#): 2

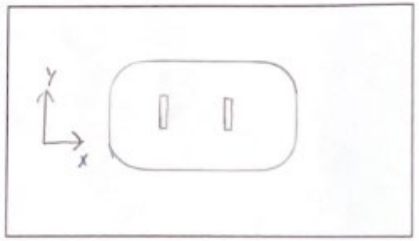
Sketch Plane: Feature 1 Top face

3D Feature type: Extruded boss

Key Feature Details (dimensions/end conditions):

.5 in from right edge Extrude length .65

.5 from eachother



2D Sketch(es) from 2nd primary feature

From Step (#): 3

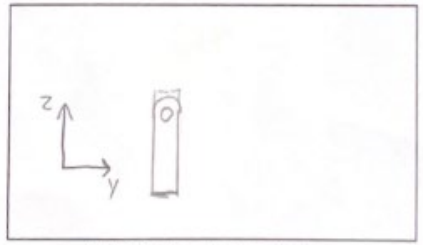
Sketch Plane: Right

3D Feature type: Extruded cut

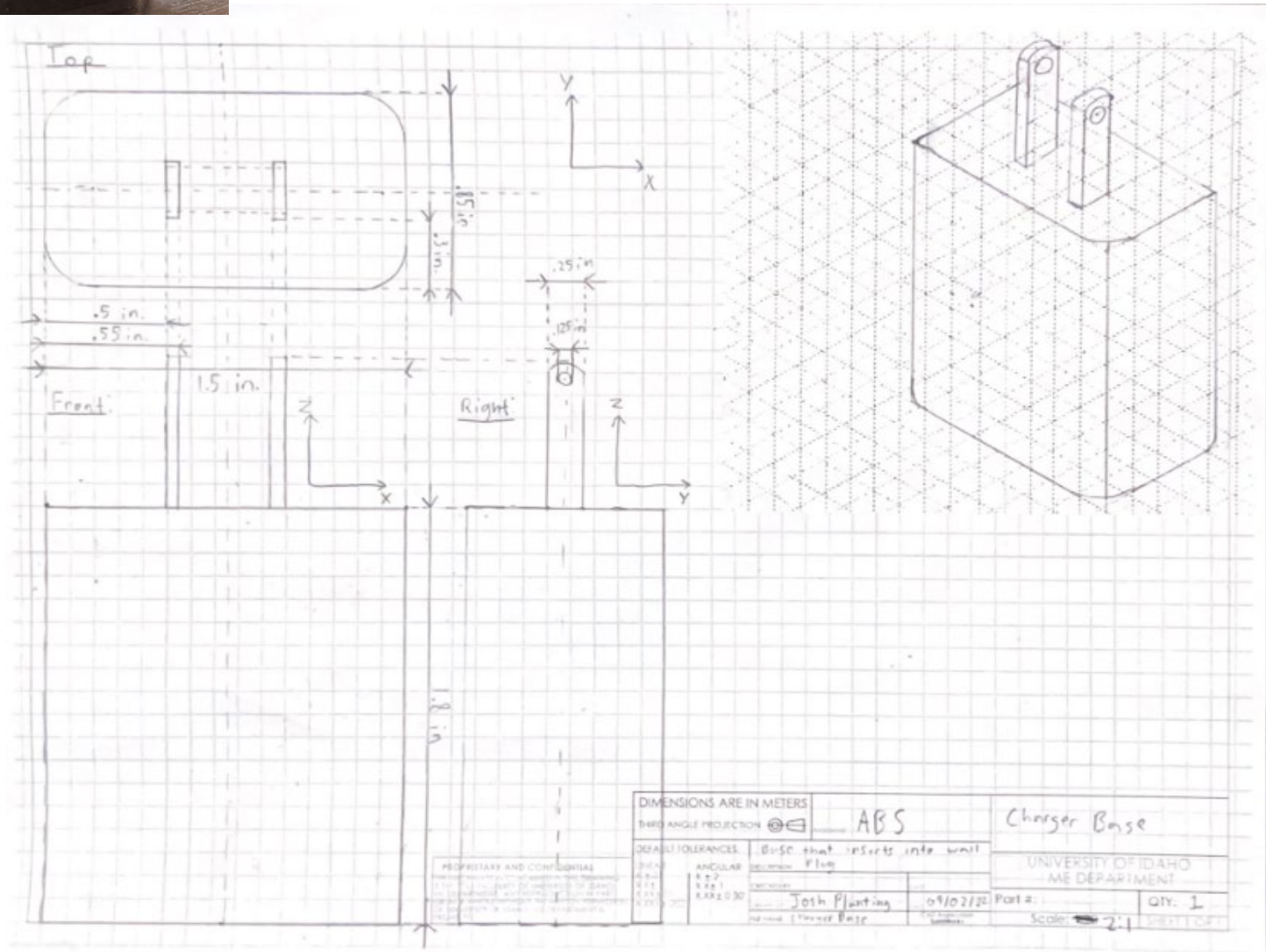
Key Feature Details (dimensions/end conditions):

Through all bidirectional

hole diameter: .125"



2D Sketch(es) from 3rd primary feature



Pre-CAD Final Products -- (use the Pre-CAD template or create your own but keep text brief)

Initial Assumptions:

Bulleted Feature Creation Steps (Ex: 1. Top plane Extrude Boss; 2. Right plane Revolve Cut; 3. Face Chamfer; 4. Pattern; 5. Mirror about new Plane 1):

1. Create rectangle, semi-circle, and hole on top plane. Extrude Boss excluding hole
2. from the front plane, make an extruded cut of the U-shape
3. Add the extruded washer to tip of through hole.
4.
5.
6.

More Details on Primary Features

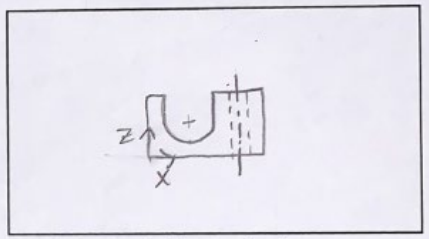
From Step (#): 2

Sketch Plane: Front

3D Feature type: Extrude Cut

Key Feature Details (dimensions/end conditions):

- Draw the sketch of the cut using a circle and lines extending to top



2D Sketch(es) from 1st primary feature

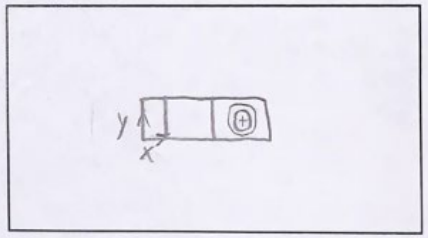
From Step (#): 3

Sketch Plane: Top

3D Feature type: Extrude Boss

Key Feature Details (dimensions/end conditions):

- add a circle around the through hole and extrude it up from main body



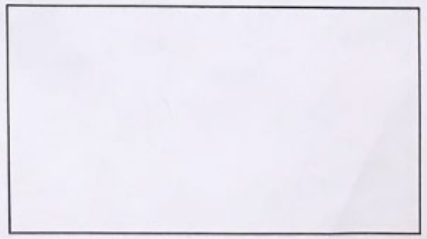
2D Sketch(es) from 2nd primary feature

From Step (#): _____

Sketch Plane: _____

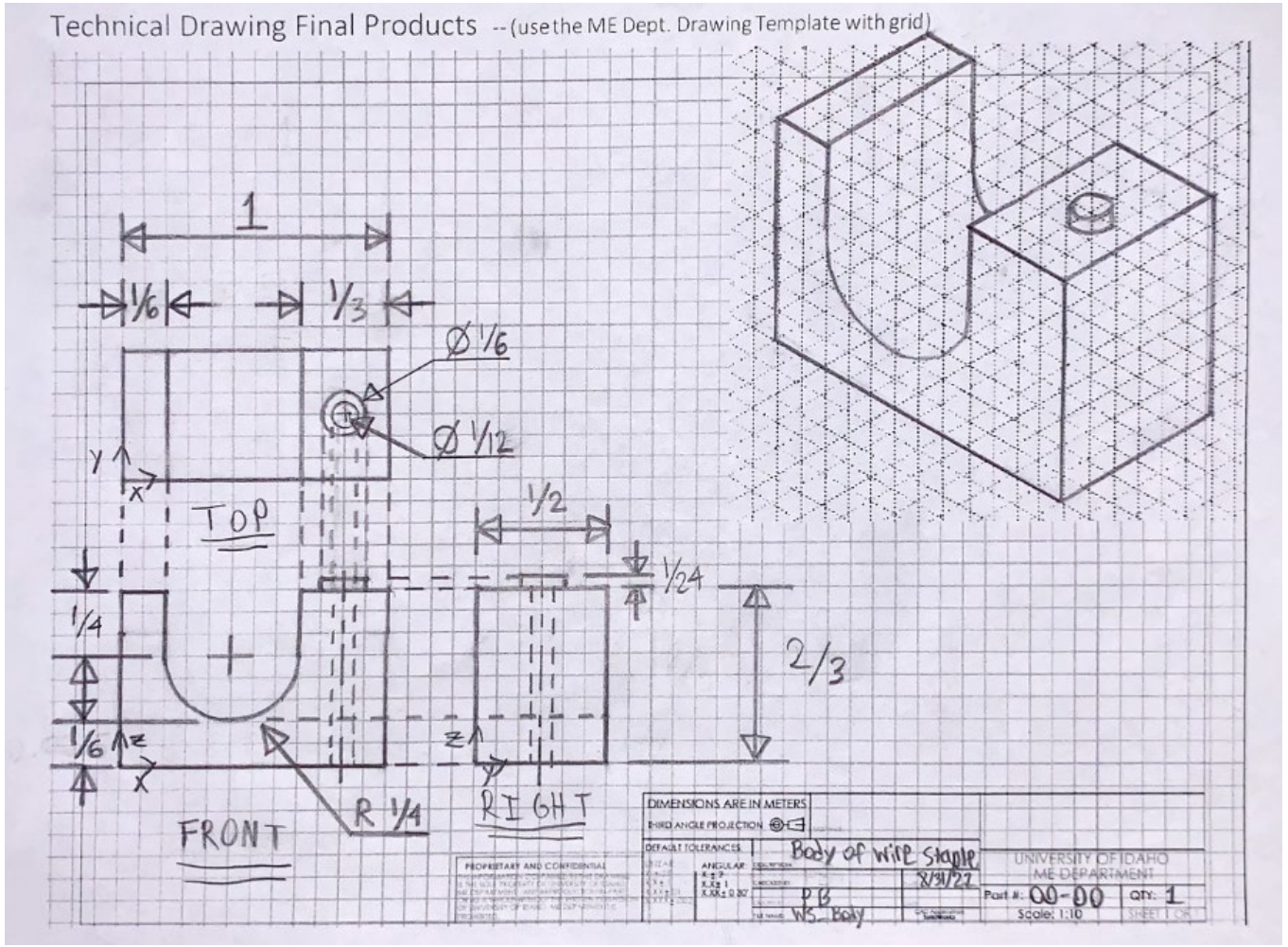
3D Feature type: _____

Key Feature Details (dimensions/end conditions):



2D Sketch(es) from 3rd primary feature

Technical Drawing Final Products -- (use the ME Dept. Drawing Template with grid)



Pre-CAD Final Products -- (use the Pre-CAD template or create your own but keep text brief)

Initial Assumptions:

Bulleted Feature Creation Steps (Ex: 1. Top plane Extrude Boss; 2. Right plane Revolve Cut; 3. Face Chamfer; 4. Pattern; 5. Mirror about new Plane 1):

1. Right plane extrude boss, midplane
2. Right plane extrude boss, midplane
3. fillet
4. Extrude cut
5.
6.

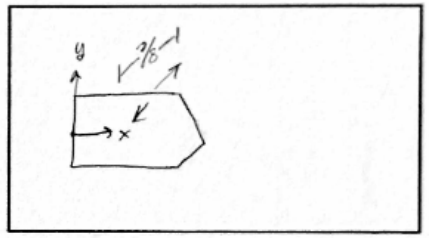
More Details on Primary Features

From Step (#): 1

Sketch Plane: Right

3D Feature type: Extrude boss

Key Feature Details (dimensions/end conditions):
midplane, extrude 3/8 in



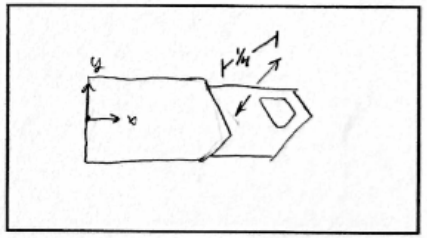
2D Sketch(es) from 1st primary feature

From Step (#): 2

Sketch Plane: Right

3D Feature type: Extrude boss

Key Feature Details (dimensions/end conditions):
midplane, extrude 0.25in



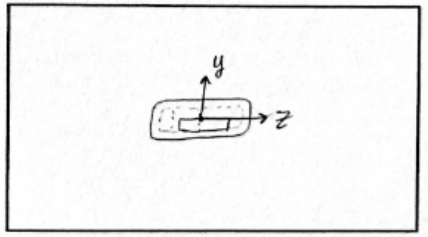
2D Sketch(es) from 2nd primary feature

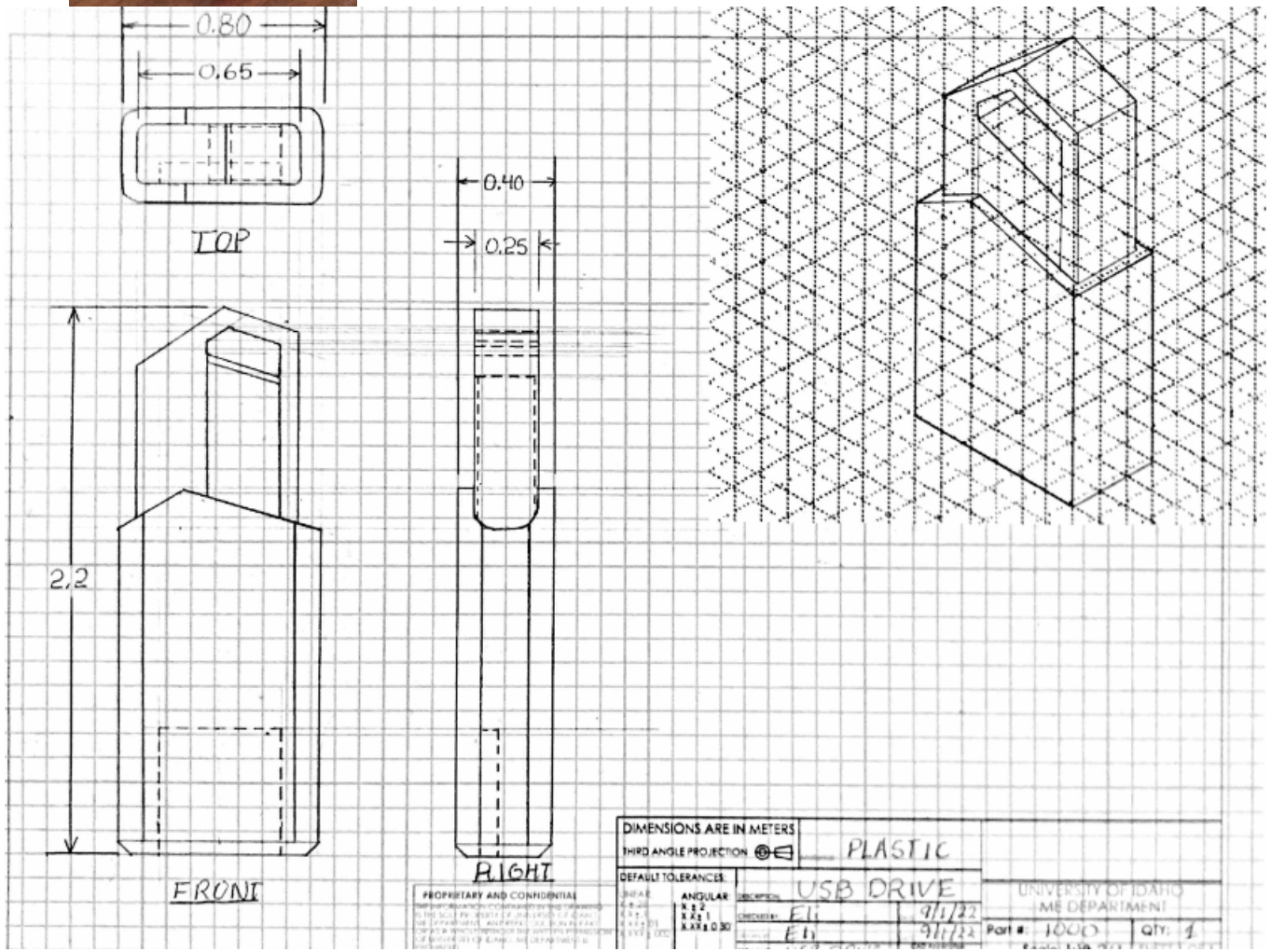
From Step (#): 4

Sketch Plane: front

3D Feature type: Extrude cut

Key Feature Details (dimensions/end conditions):





Pre-CAD Final Products -- (use the Pre-CAD template or create your own but keep text brief)

Initial Assumptions:

None

Bulleted Feature Creation Steps (Ex: 1. Top plane Extrude Boss; 2. Right plane Revolve Cut; 3. Face Chamfer; 4. Pattern; 5. Mirror about new Plane 1):

1. Front Plane extrude boss
2. Top Plane Extrude Boss
3. Top Plane Extrude Cut
4. Cut edge Chamfer (45°)
5.
6.

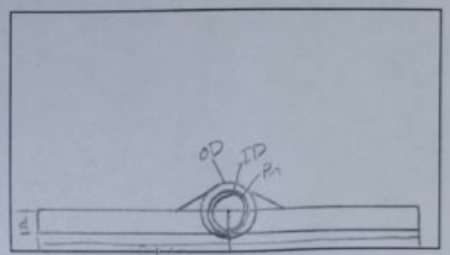
More Details on Primary Features

From Step (#): 1

Sketch Plane: Front

3D Feature type: Extrude boss

Key Feature Details (dimensions/end conditions):
OD is tangental to the origin
ID, Pin are centered @ with OD
Plate at length L



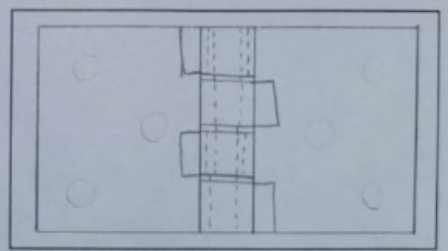
2D Sketch(es) from 1st primary feature

From Step (#): 2

Sketch Plane: Top

3D Feature type: Extrude boss

Key Feature Details (dimensions/end conditions):
The plate extrude thickness L

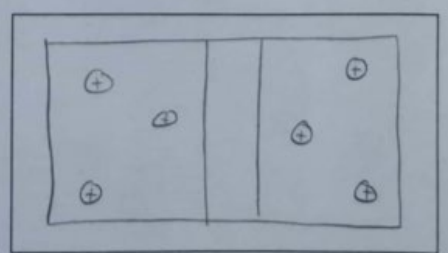

2D Sketch(es) from 2nd primary feature

From Step (#): 3

Sketch Plane: Top

3D Feature type: Extrude Cut, Chamfer

Key Feature Details (dimensions/end conditions):
hole extrude Cut (x6)
Chamfer holes on top (45°)


2D Sketch(es) from 3rd primary feature

Pre-CAD Final Products -- (use the Pre-CAD template or create your own but keep text brief)

Initial Assumptions:

Bulleted Feature Creation Steps (Ex: 1. Top plane Extrude Boss; 2. Right plane Revolve Cut; 3. Face Chamfer; 4. Pattern; 5. Mirror about new Plane 1):

1. circle with rectangle hole
2. extrude circle
3. bottom and cover with circle
4. top and dia circle and loft/extrude to a smaller diameter
5. extrude smaller diameter cylinder
6. extrude rectangular holding cap

More Details on Primary Features

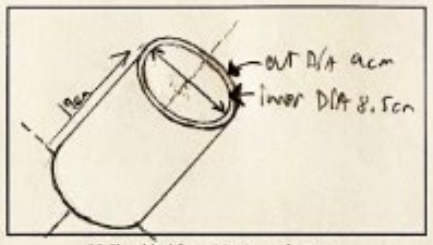
From Step (#): 1, 2 and 3

Sketch Plane: top

3D Feature type: extrude

Key Feature Details (dimensions/end conditions):

height: 18cm
outer DIA: 9cm
inner dia: 8.5cm



2D Sketch(es) from 1st primary feature

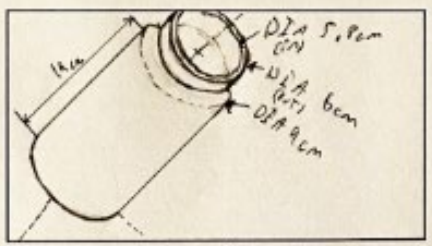
From Step (#): 4-5

Sketch Plane: top and side

3D Feature type: extrude

Key Feature Details (dimensions/end conditions):

top end:
height: 2.5cm
Outer DIA: 6cm
Inner DIA: 5.8cm



2D Sketch(es) from 2nd primary feature

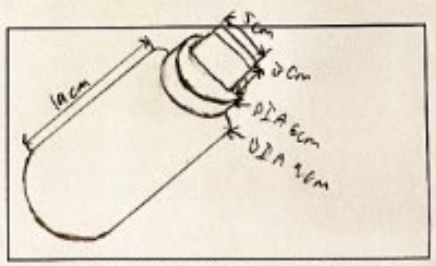
From Step (#): 6

Sketch Plane: side

3D Feature type: extruded

Key Feature Details (dimensions/end conditions):

cap: height: 3cm
width: 5 cm
Length: 2 cm



2D Sketch(es) from 3rd primary feature