

Practice Problem 8.1

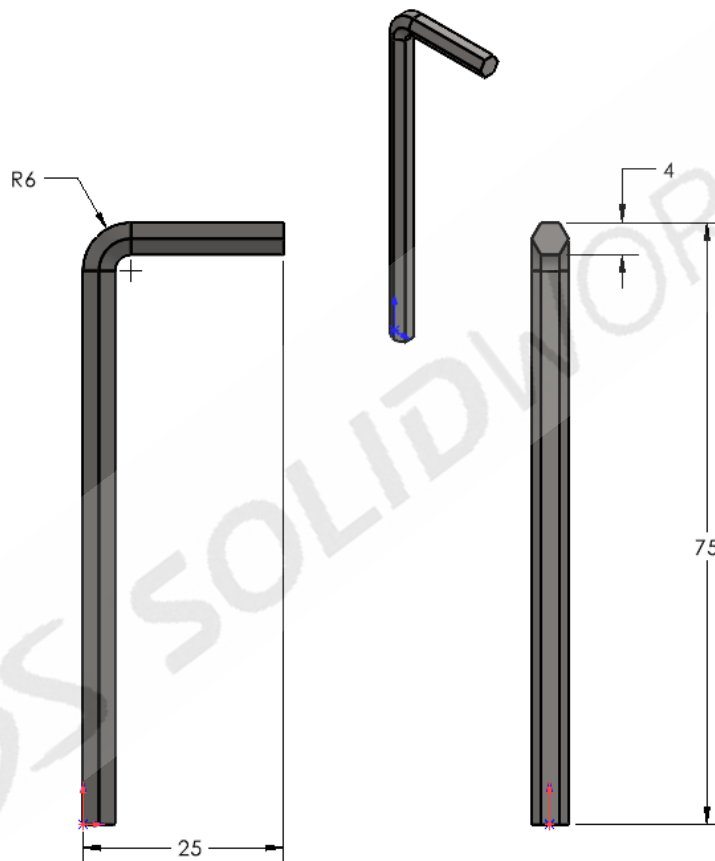
Sweep Boss/Cut (Level 8)

- Units: MMGS
- Difficulty Level: Easy
- Certification: CSWA
- Duration (min): 5
- Design Intent:
 - The part's origin location is indicated in red.
 - The part is symmetric.
 - All sketches are fully defined.

Suggested Sketch Tools / Features

- Sketch: Lines, Circles, Centerlines, Polygons, Sketch Fillets
- Features: Sweeps

Volume: 1306 mm³



Practice Problem 8.2

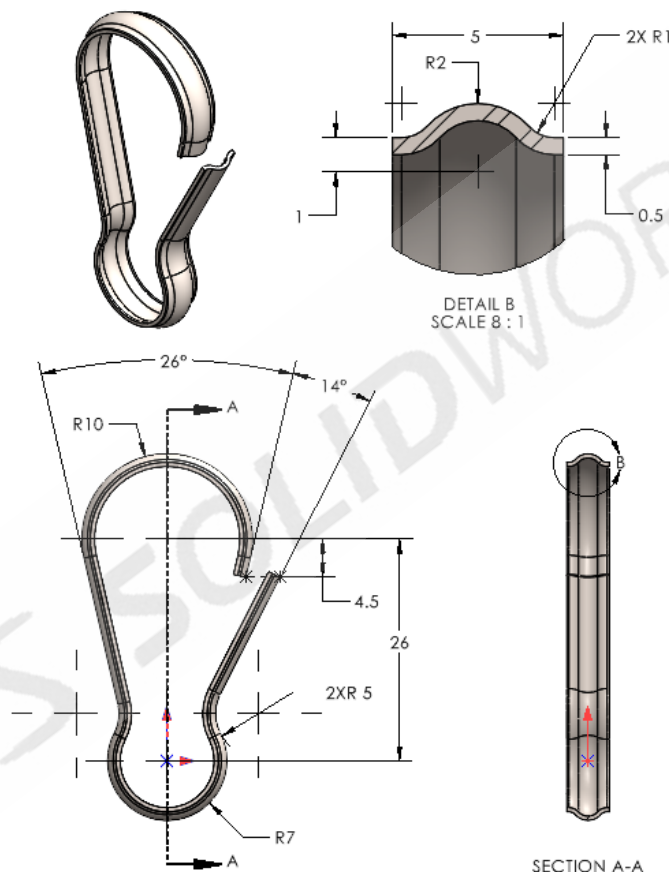
Sweep Boss/Cut (Level 8)

- Units: MMGS
- Difficulty Level: Medium
- Certification: CSWA
- Duration (min): 15
- Design Intent:
 - The part's origin location is indicated in red.
 - The part is symmetric.
 - All sketches are fully defined.

Suggested Sketch Tools / Features

- Sketch: Lines, Circles, Centerlines, Sketch Fillets
- Features: Sweeps

Volume: 288 mm³



Practice Problem 8.3

Sweep Boss/Cut (Level 8)

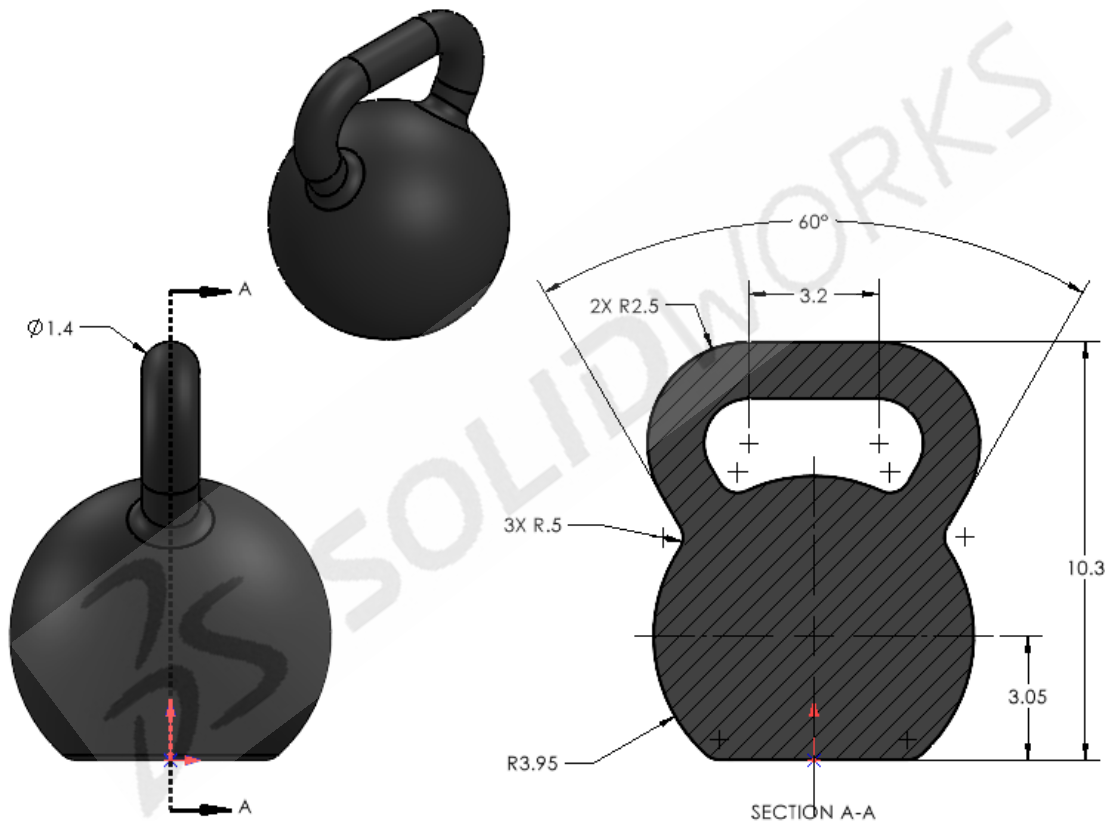
- Units: IPS
- Difficulty Level: Easy
- Certification: CSWA
- Duration (min): 10
- Design Intent:
 - The part's origin location is indicated in red.
 - The part is symmetric.
 - All sketches are fully defined.

Suggested Sketch Tools / Features

- Sketch: Lines, Circles, Centerlines, Arcs
- Features: Revolves, Sweeps, Fillets and Chamfers

HINT: Extend sweep into sphere.

Volume: 269 in³



Practice Problem 8.4

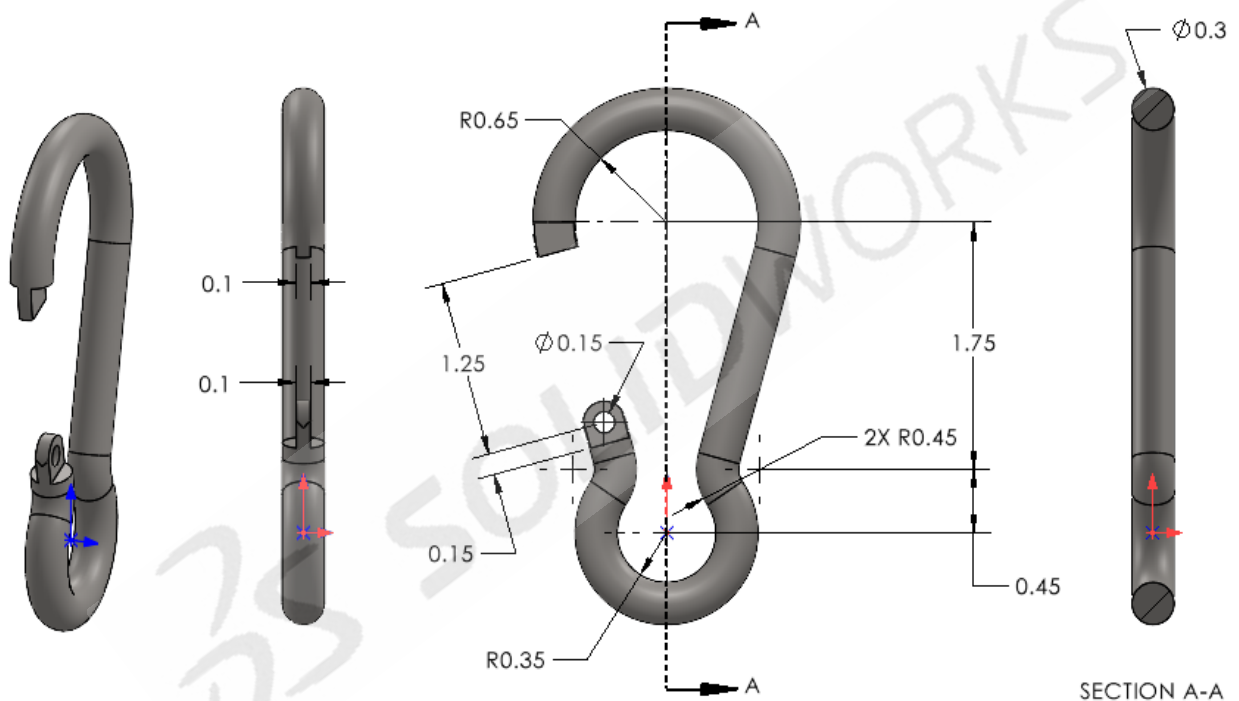
Sweep Boss/Cut (Level 8)

- Units: IPS
- Difficulty Level: Medium
- Certification: CSWA
- Duration (min): 20
- Design Intent:
 - The part's origin location is indicated in red.
 - The part is symmetric.
 - All sketches are fully defined.

Suggested Sketch Tools / Features

- Sketch: Lines, Circles, Centerlines
- Features: Sweeps, Extrude Cut
- Patterns: Mirror

Volume: 0.51 in³



Practice Problem 8.5

Sweep Boss/Cut (Level 8)

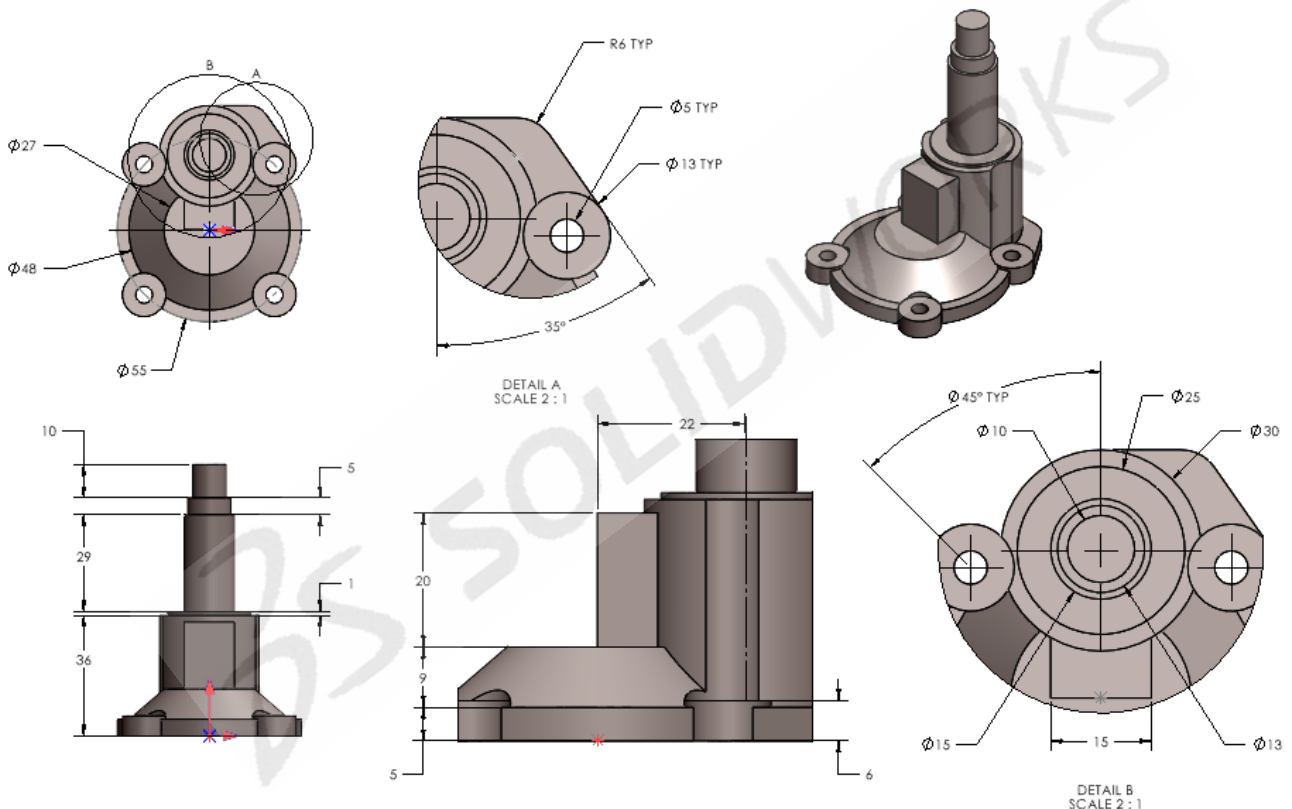
- Units: MMGS
- Difficulty Level: Hard
- Certification: CSWA
- Duration (min): 40
- Design Intent:
 - The part's origin location is indicated in red.
 - The part is *asymmetric*.
 - All sketches are fully defined.

Suggested Sketch Tools / Features

- Sketch: Lines, Circles, Centerlines
- Features: Lofts, Extrude Boss, Extrude Cut
- Patterns: Circular

HINT: The loft is between two circles.

Volume: 53816 mm³



Practice Problem 8.6

Sweep Boss/Cut (Level 8)

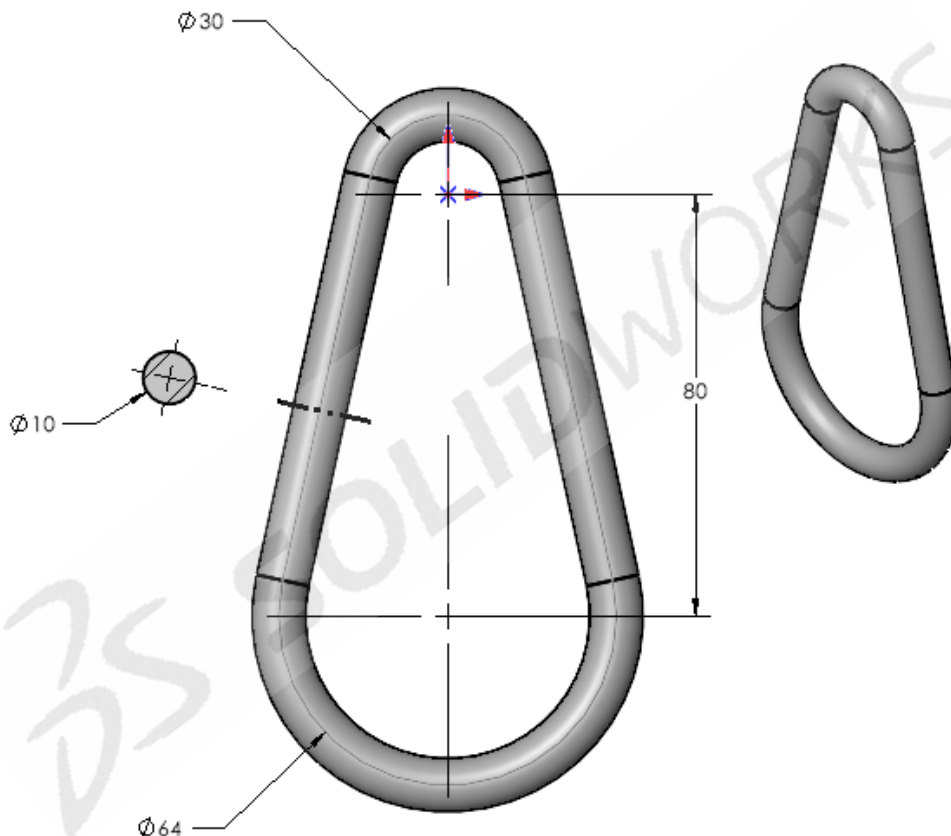
- Units: MMGS
- Difficulty Level: Easy
- Certification: CSWA
- Duration (min): 5
- Design Intent:
 - The part's origin location is indicated in red.
 - The part is symmetric.
 - All sketches are fully defined.

Suggested Sketch Tools / Features

- Sketch: Lines, Centerlines, Arcs
- Features: Sweeps

HINT: The Sweep can use the Circular Profile option.

Volume: 24448 mm³



Practice Problem 8.7

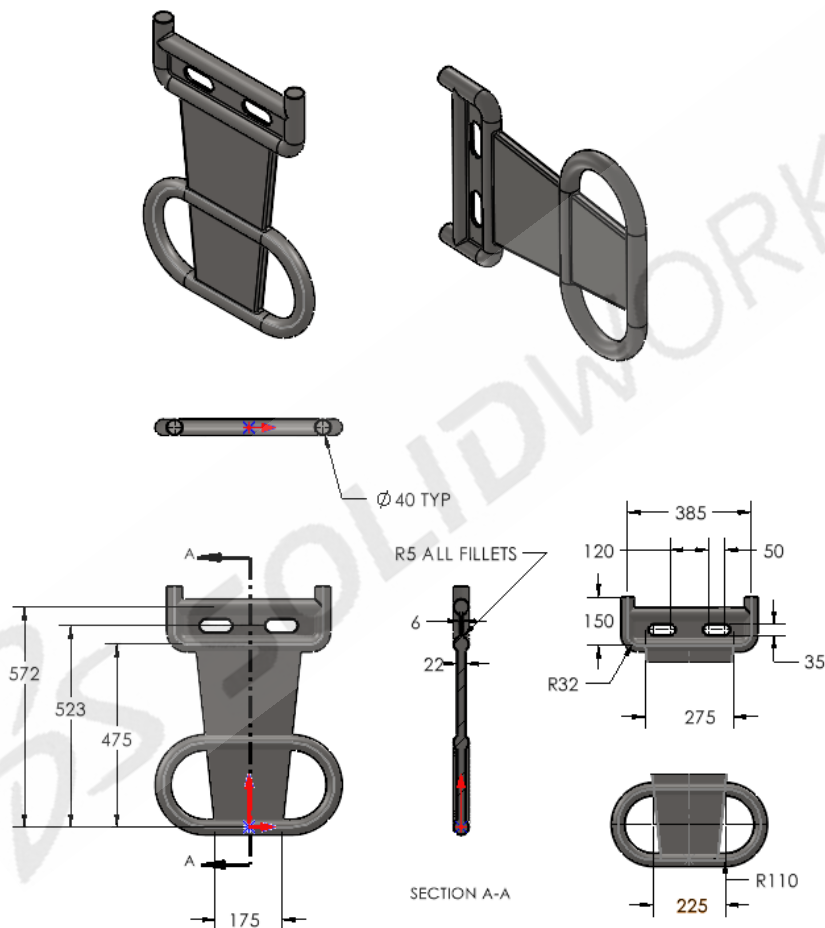
Sweep Boss/Cut (Level 8)

- Units: MMGS
- Difficulty Level: Medium
- Certification: CSWA
- Duration (min): 20
- Design Intent:
 - The part's origin location is indicated in red.
 - The part is symmetric.
 - All sketches are fully defined.

Suggested Sketch Tools / Features

- Sketch: Lines, Arcs, Centerlines, Slots, Trim
- Features: Extrude Boss, Sweeps, Fillets and Chamfers
- Patterns: Mirror

Volume: 4764321 mm³



Practice Problem 8.8

Sweep Boss/Cut (Level 8)

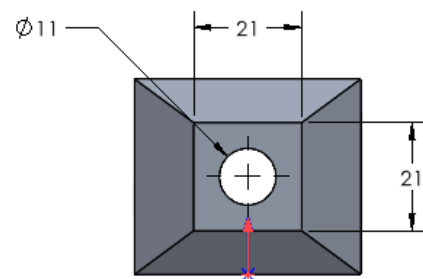
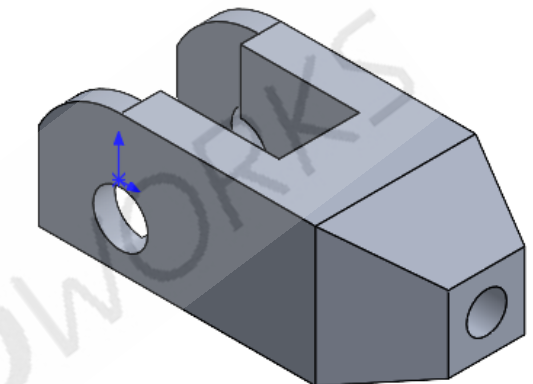
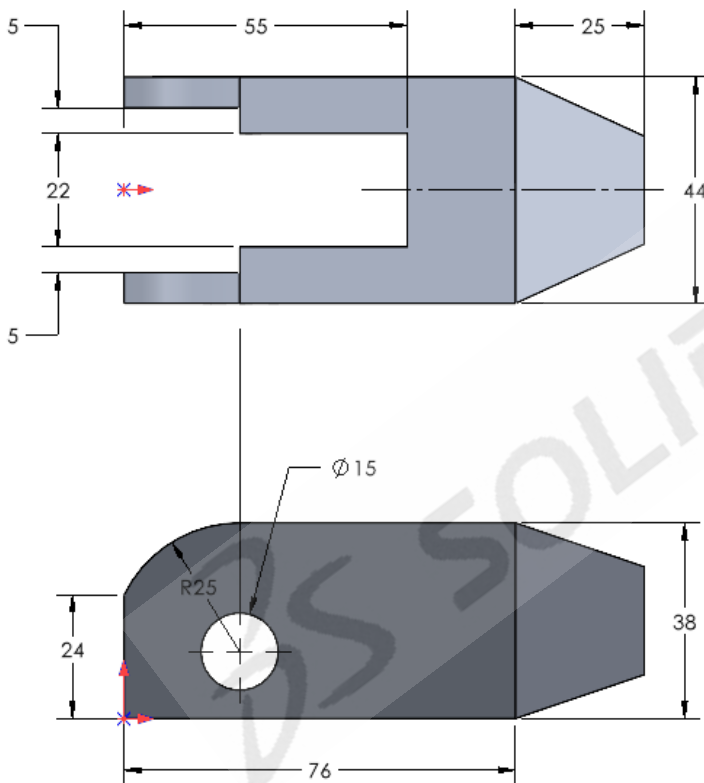
- Units: MMGS
- Difficulty Level: Easy
- Certification: CSWA
- Duration (min): 10
- Design Intent:
 - The part's origin location is indicated in red.
 - The part is symmetric.
 - All sketches are fully defined.

Suggested Sketch Tools / Features

- Sketch: Lines, Circles, Centerlines, Arcs, Rectangles, Sketch Fillets
- Features: Lofts, Extrude Boss, Extrude Cut
- Reference Geometry: Planes

HINT: Loft between a square sketch and a planar face.

Volume: 88897 mm³



Practice Problem 8.9

Sweep Boss/Cut (Level 8)

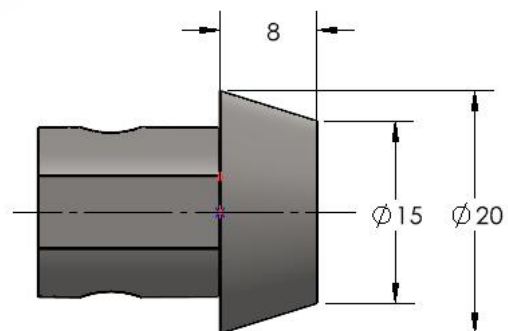
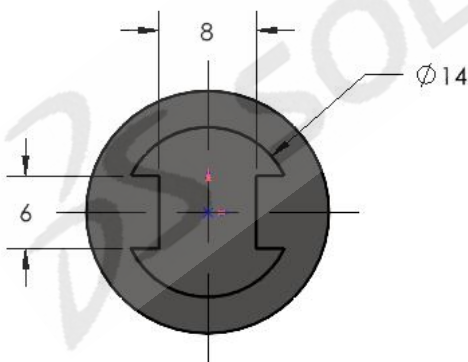
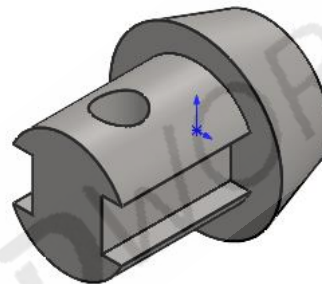
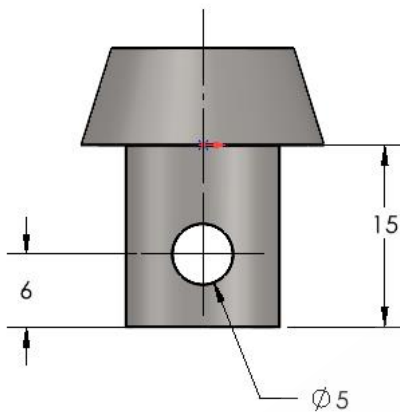
- Units: MMGS
- Difficulty Level: Medium
- Certification: CSWA
- Duration (min): 10
- Design Intent:
 - The part's origin location is indicated in red.
 - The part is symmetric.
 - All sketches are fully defined.

Suggested Sketch Tools / Features

- Sketch: Lines, Circles, Centerlines
- Features: Lofts, Extrude Boss, Extrude Cut
- Reference Geometry: Planes

HINT: The cap is lofted.

Volume: 3476 mm³



Practice Problem 8.10

Sweep Boss/Cut (Level 8)

- Units: MMGS
- Difficulty Level: Easy
- Certification: CSWA
- Duration (min): 10
- Design Intent:
 - The part's origin location is indicated in red.
 - The part is symmetric.
 - All sketches are fully-defined.
 - All fillets on the path are equal.

Suggested Sketch Tools / Features

- Sketch: Lines, Centerlines, Circles
- Features: Sweeps
- Reference Geometry: Planes

Volume: 46575 mm³

