

# Practice Problem 4.1

## Extrude Cut & Fillet/Chamfer (Level 4)

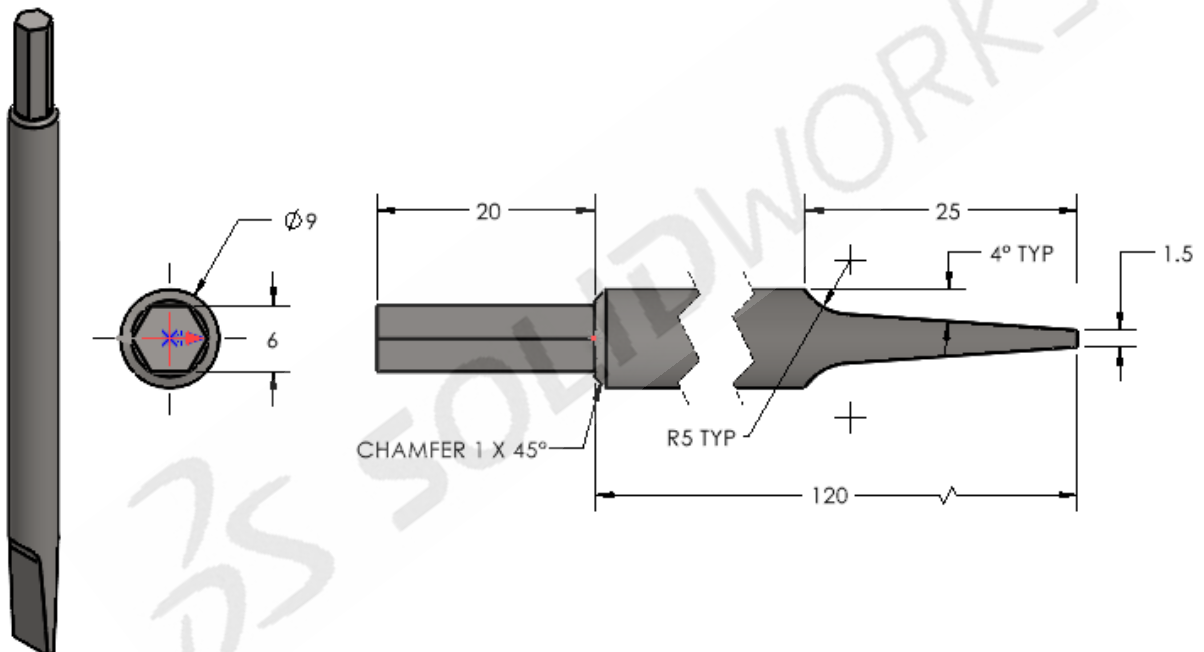
- Units: MMGS
- Difficulty Level: Medium
- Certification: CSWA
- Duration (min): 10
- Design Intent:
  - The part's origin location is indicated in red.
  - The part is symmetric.
  - All sketches are fully-defined.

## Suggested Sketch Tools / Features

- Sketch: Lines, Centerlines, Circles
- Features: Extrude Boss, Extrude Cut, Fillets and Chamfers

HINT: Use the Polygon tool to create hex.

Volume: 7393 mm<sup>3</sup>



# Practice Problem 4.2

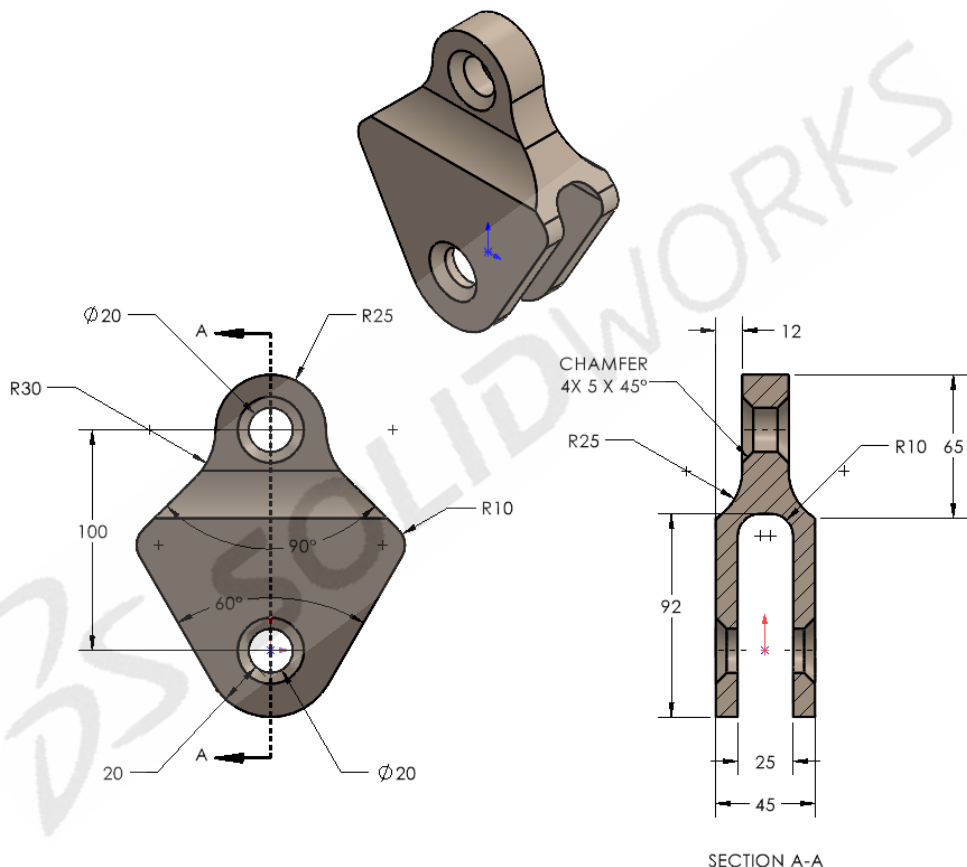
## Extrude Cut & Fillet/Chamfer (Level 4)

- 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, Centerlines, Circles, Arc, Sketch Fillets
- Features: Extrude Boss, Extrude Cut

Volume: 226455 mm<sup>3</sup>



# Practice Problem 4.3

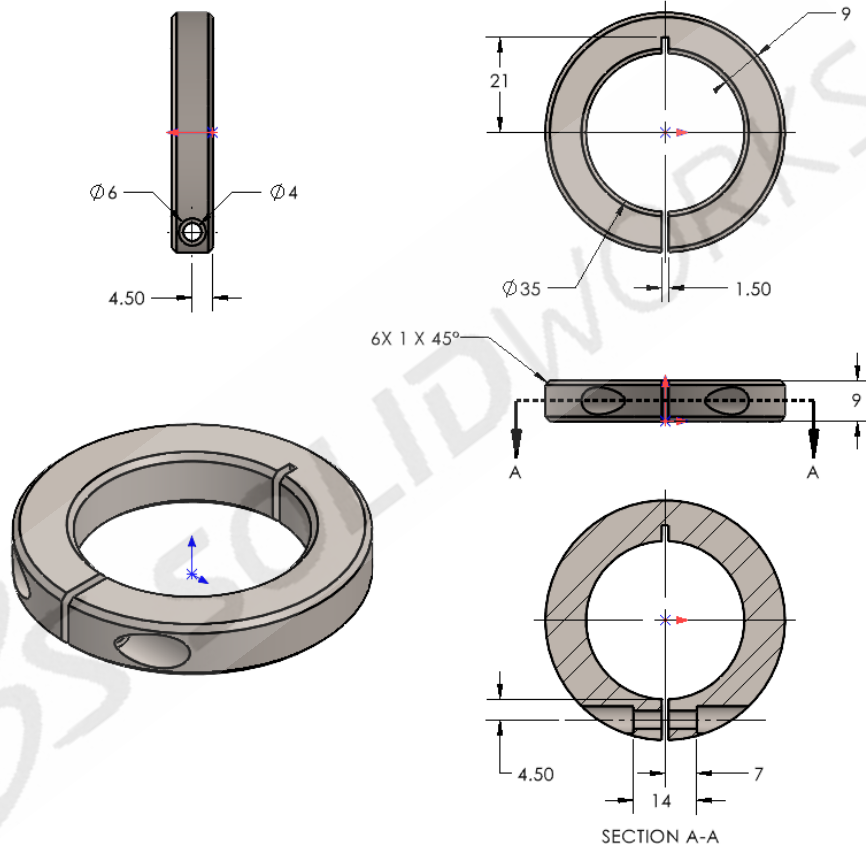
## Extrude Cut & Fillet/Chamfer (Level 4)

- 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, Centerlines, Circles, Arcs
- Features: Extrude Boss, Extrude Cut, Fillets and Chamfers

Volume: 10173 mm<sup>3</sup>



# Practice Problem 4.4

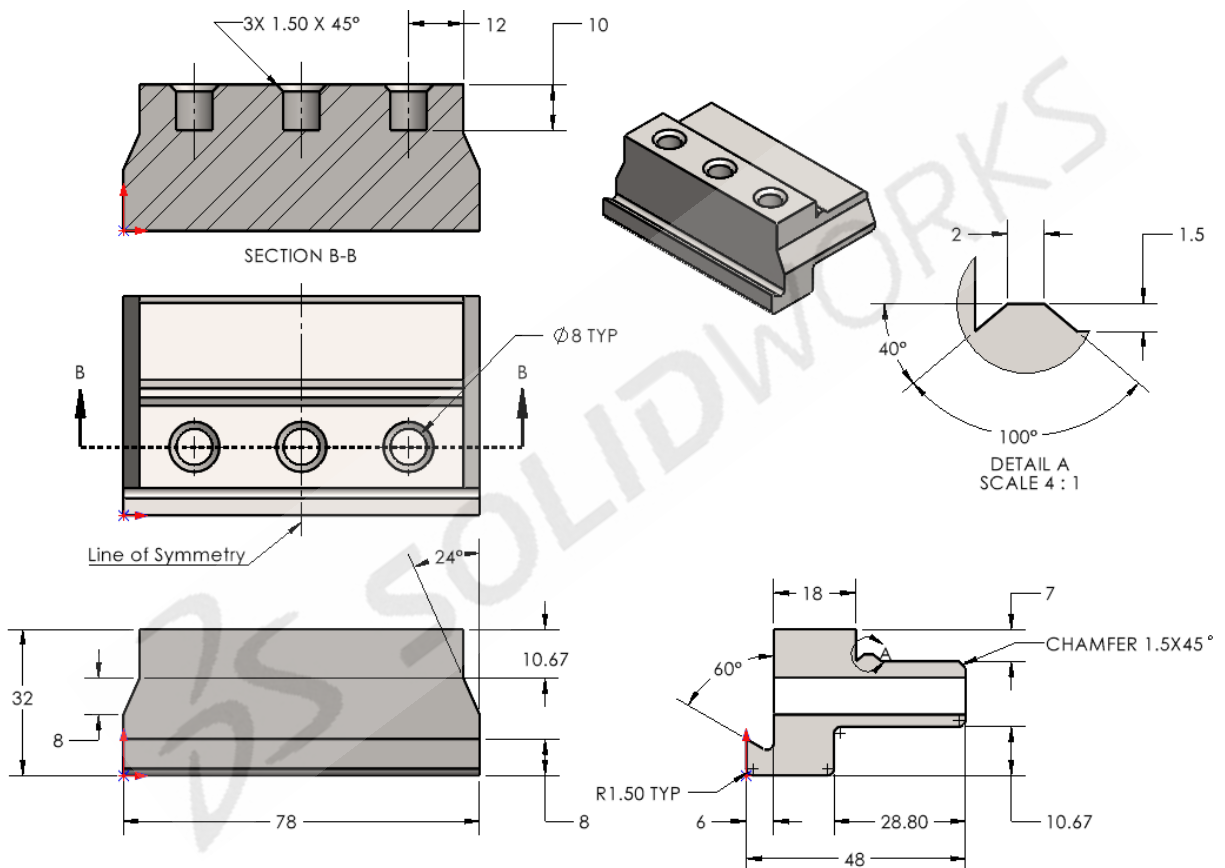
## Extrude Cut & Fillet/Chamfer (Level 4)

- 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, Centerlines, Circles, Arcs
- Features: Extrude Boss, Extrude Cut, Fillets and Chamfers

Volume: 66273 mm<sup>3</sup>



# Practice Problem 4.5

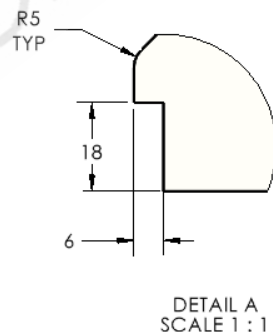
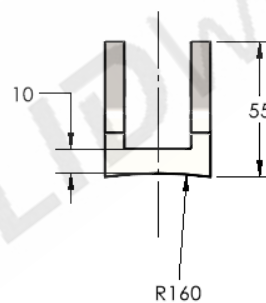
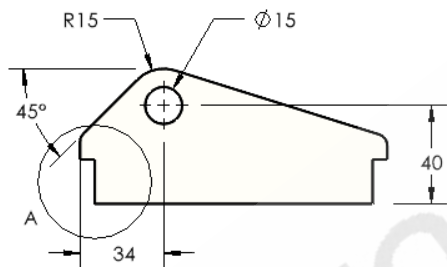
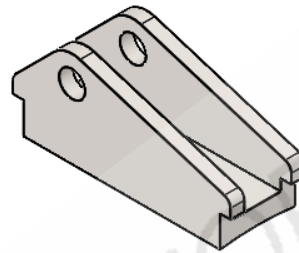
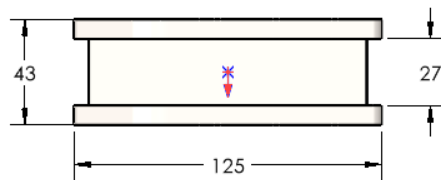
## Extrude Cut & Fillet/Chamfer (Level 4)

- 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, Centerlines, Circles
- Features: Extrude Boss, Extrude Cut, Fillets and Chamfers

Volume: 107923 mm<sup>3</sup>



# Practice Problem 4.6

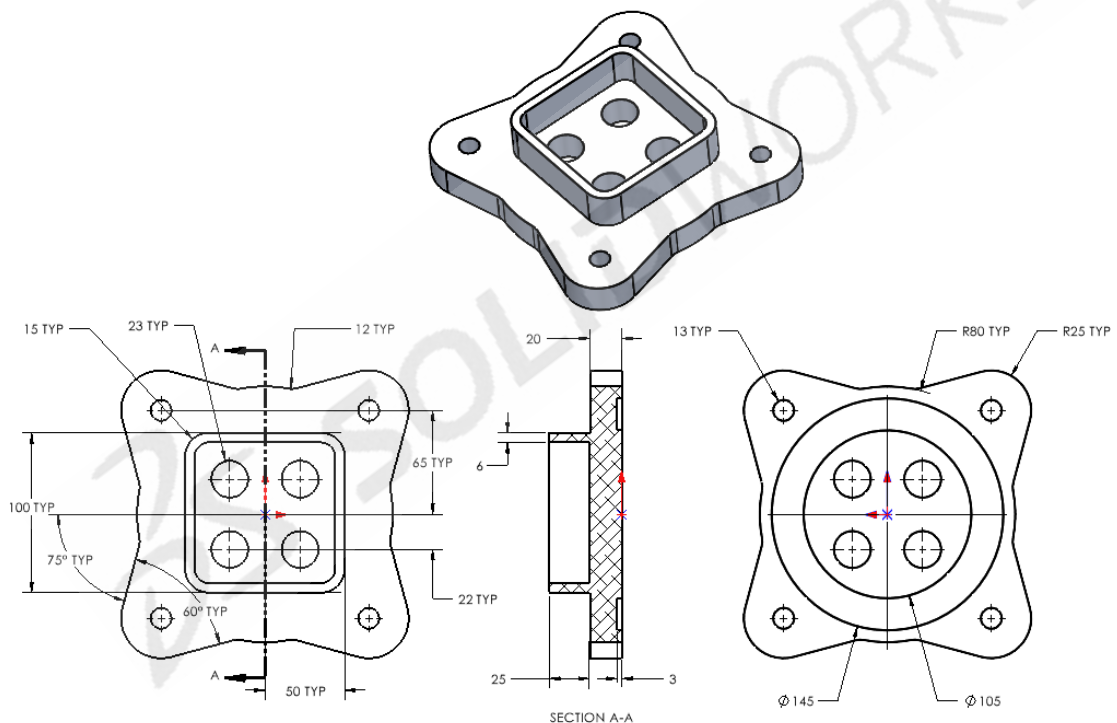
## Extrude Cut & Fillet/Chamfer (Level 4)

- Units: MMGS
- Difficulty Level: Hard
- Certification: CSWA
- Duration (min): 35
- 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, Circles, Sketch Fillets
- Features: Extrude Boss, Extrude Cut

Volume: 554745 mm<sup>3</sup>



# Practice Problem 4.7

## Extrude Cut & Fillet/Chamfer (Level 4)

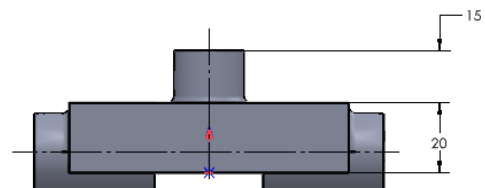
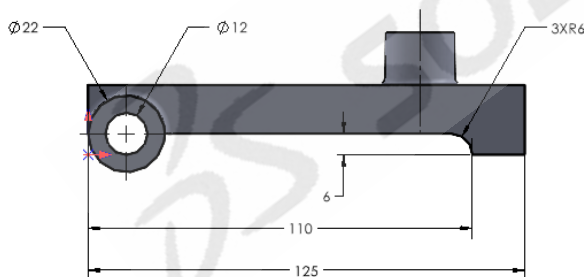
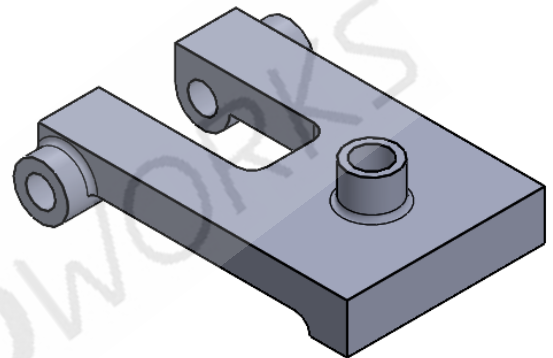
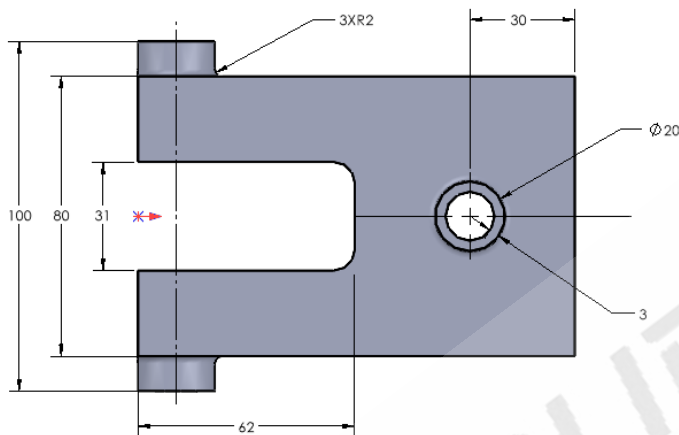
- Units: MMGS
- Difficulty Level: Medium
- Certification: CSWA
- Duration (min): 25
- Design Intent:
  - The part's origin location is indicated in red.
  - The part is symmetric.
  - All sketches are fully-defined.

## Suggested Sketch Tools / Features

- Sketch: Lines, Centerlines, Circles, Rectangles
- Features: Extrude Boss, Extrude Cut, Fillets and Chamfers

HINT: Start with a rectangle, placing the lower right corner at the origin.

Volume: 130592 mm<sup>3</sup>



# Practice Problem 4.8

## Extrude Cut & Fillet/Chamfer (Level 4)

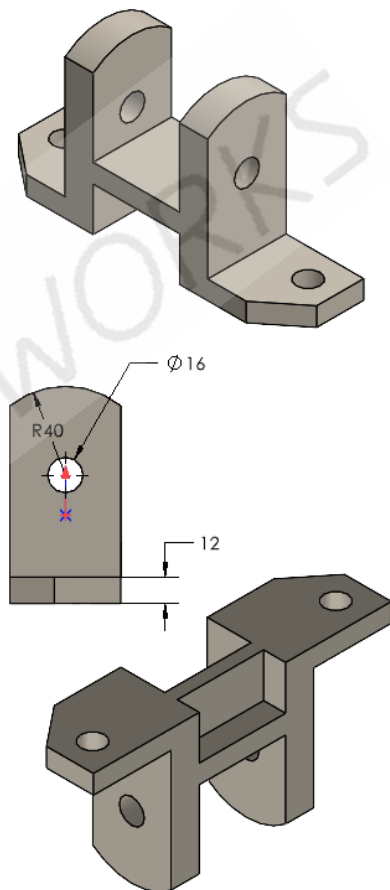
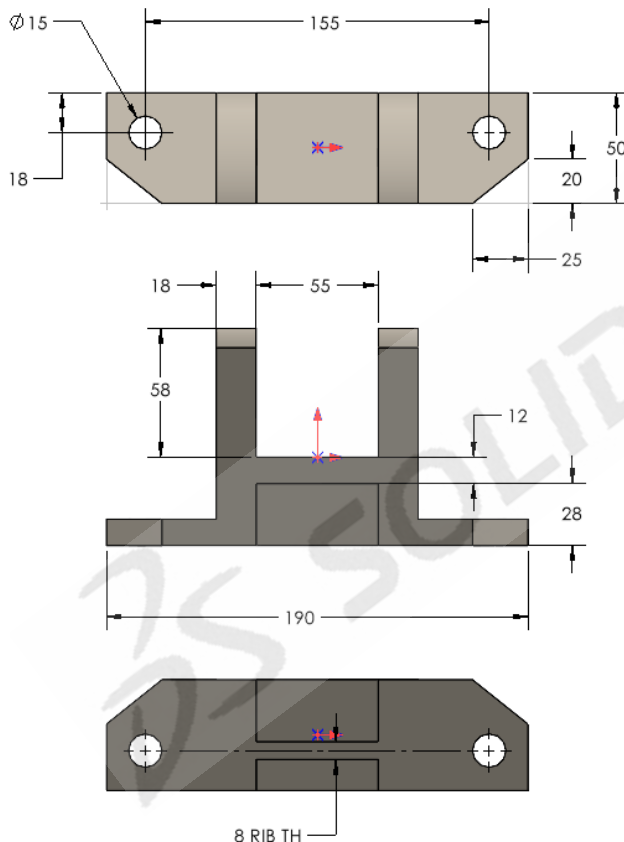
- Units: MMGS
- Difficulty Level: Easy
- Certification: CSWA
- Duration (min): 15
- Design Intent:
  - The part's origin location is indicated in red.
  - The part is symmetric.
  - All sketches are fully-defined.

## Suggested Sketch Tools / Features

- Sketch: Lines, Centerlines, Circles
- Features: Extrude Boss, Extrude Cut, Fillets and Chamfers

HINT: The rib is centered on the lower circular holes.

Volume: 258631 mm<sup>3</sup>





# Practice Problem 4.9

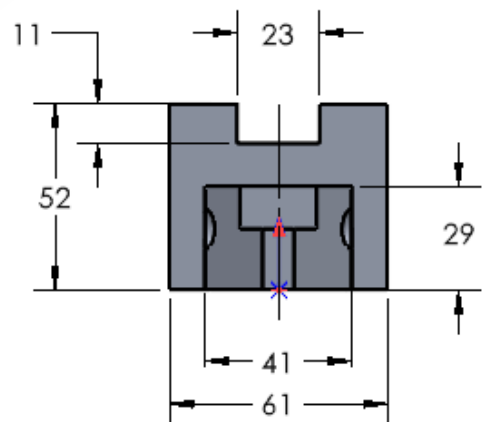
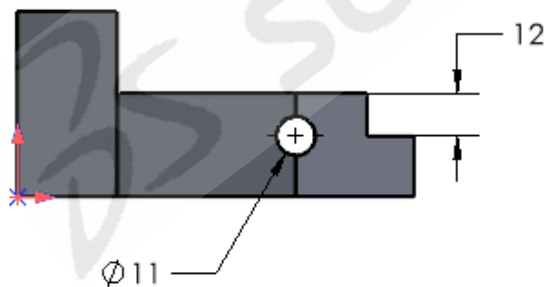
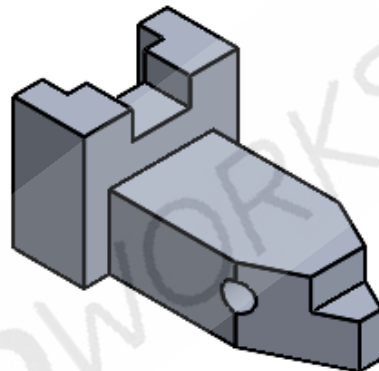
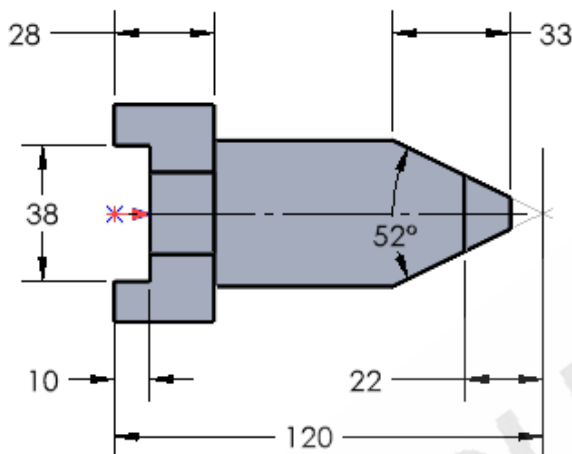
## Extrude Cut & Fillet/Chamfer (Level 4)

- Units: MMGS
- Difficulty Level: Easy
- 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, Centerlines, Circles
- Features: Extrude Boss, Extrude Cut

Volume: 141606 mm<sup>3</sup>



# Practice Problem 4.10

## Extrude Cut & Fillet/Chamfer (Level 4)

- 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, Circles, Arcs
- Features: Extrude Boss, Extrude Cut

HINT: Create all 8 holes in a single feature.

Volume: 65203 mm<sup>3</sup>

