

Practice Problem 2.1

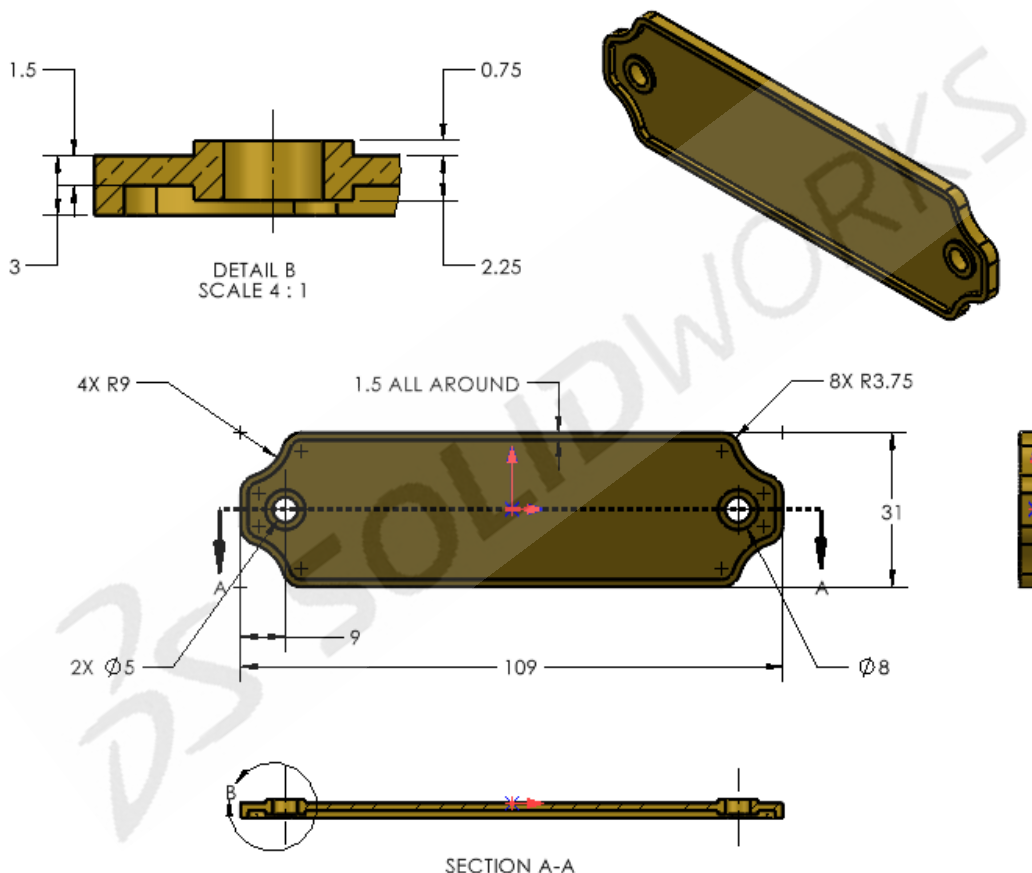
Sketch Tools & End Conditions (Level 2)

- 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, Sketch Fillets
- Features: Extrude Boss

Volume: 5263 mm³



Practice Problem 2.2

Sketch Tools & End Conditions (Level 2)

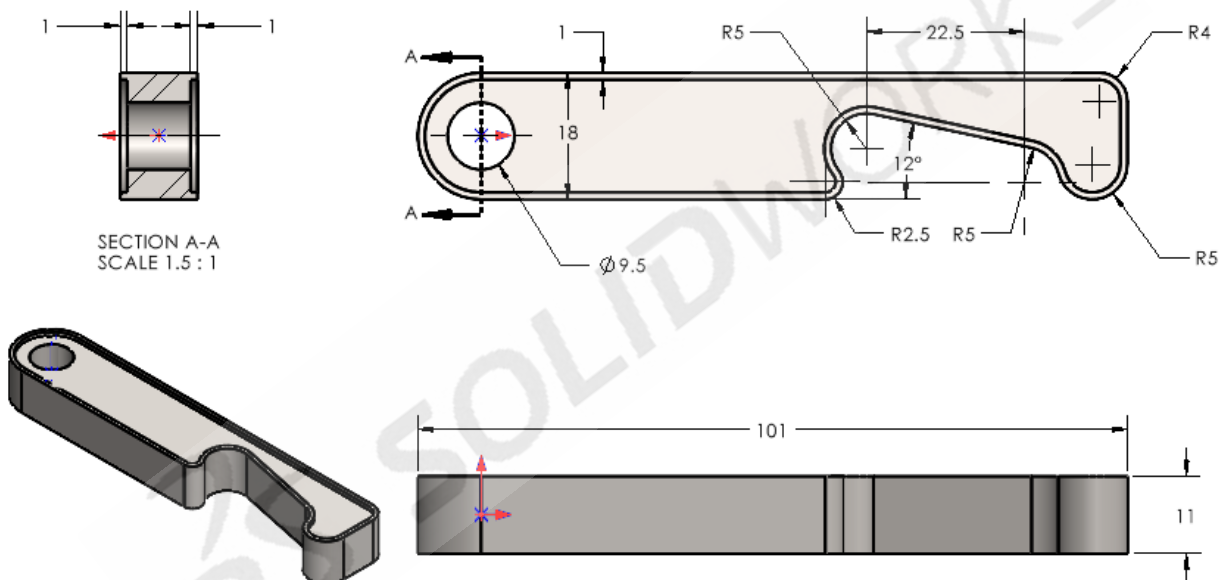
- Units: MMGS
- Difficulty Level: Medium
- Certification: CSWA
- Duration (min): 10
- Design Intent:
 - The part's origin location is indicated in red.
 - The part is *asymmetric*.
 - All sketches are fully-defined.

Suggested Sketch Tools / Features

- Sketch: Lines, Centerlines, Circles, Sketch Fillets
- Features: Extrude Boss

HINT: Edge thickness is constant.

Volume: 13031 mm³



Practice Problem 2.3

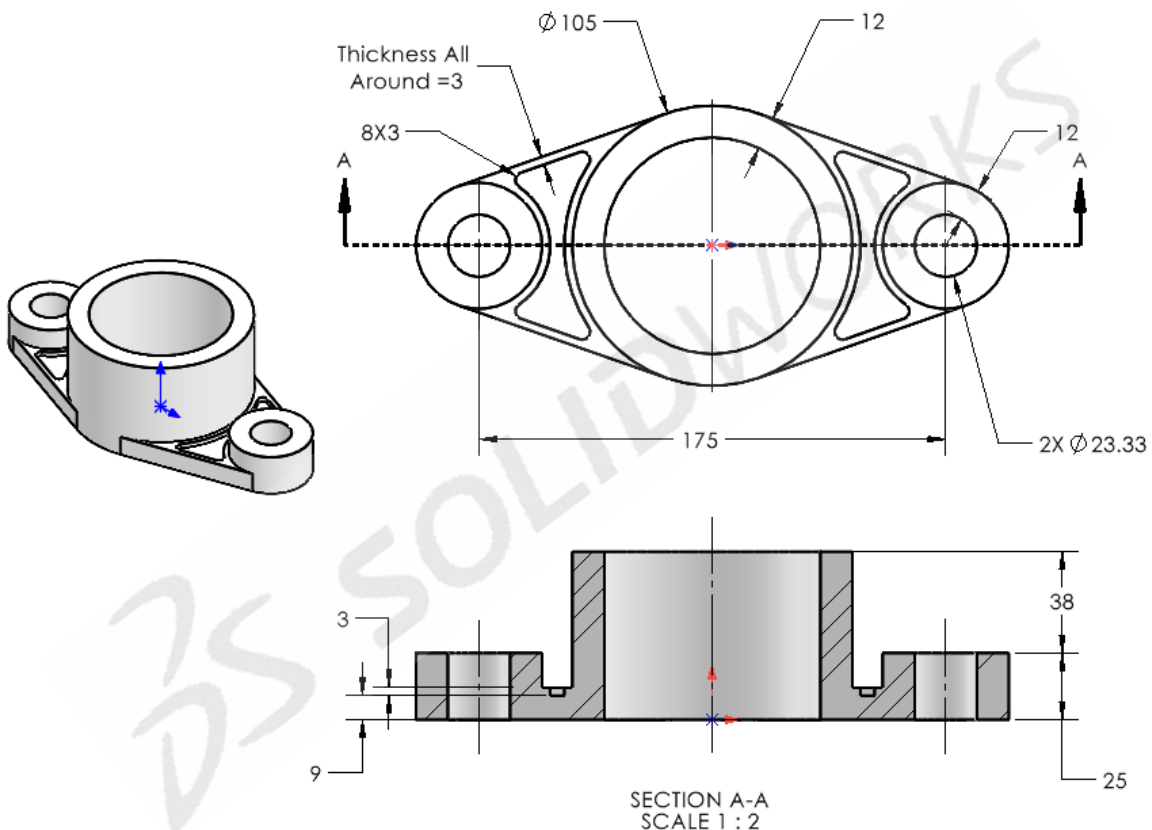
Sketch Tools & End Conditions (Level 2)

- 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, Arcs, Offset Entities
- Features: Extrude Boss

Volume: 325633 mm³



Practice Problem 2.4

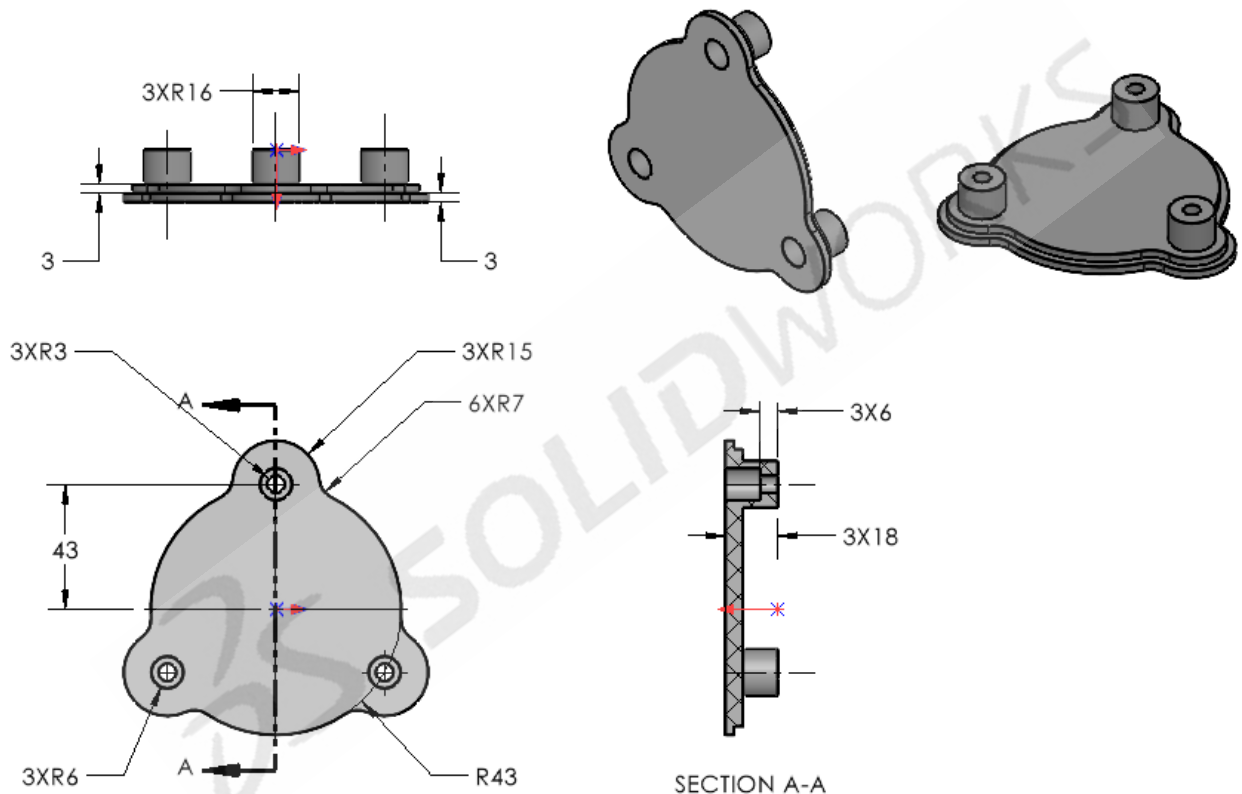
Sketch Tools & End Conditions (Level 2)

- 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

Volume: 42236 mm³



Practice Problem 2.5

Sketch Tools & End Conditions (Level 2)

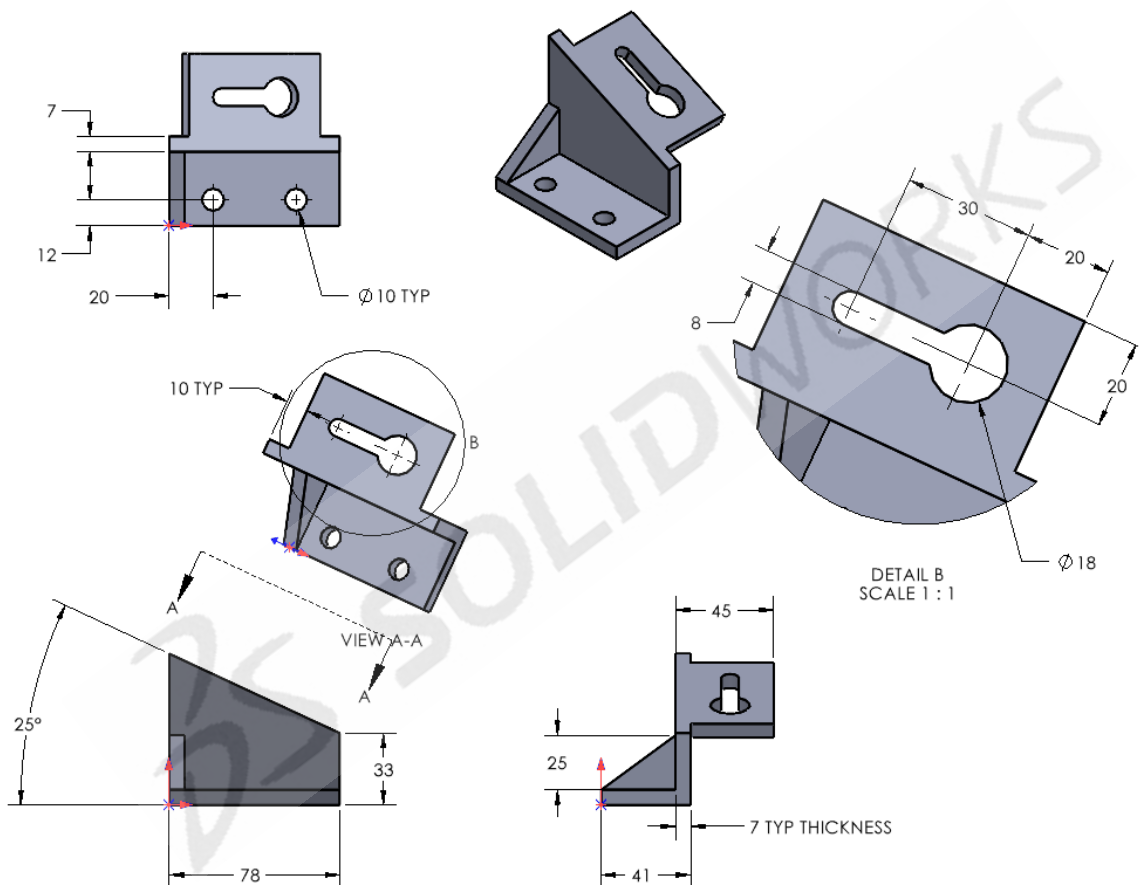
- Units: MMGS
- Difficulty Level: Medium
- Certification: CSWA
- Duration (min): 15
- Design Intent:
 - The part's origin location is indicated in red.
 - The part is *asymmetric*.
 - All sketches are fully-defined.

Suggested Sketch Tools / Features

- Sketch: Lines, Centerlines, Circles, Slots
- Features: Extrude Boss

HINT: Plane is not required. Sketch on the angled face of the extrusion.

Volume: 62810 mm³



Practice Problem 2.6

Sketch Tools & End Conditions (Level 2)

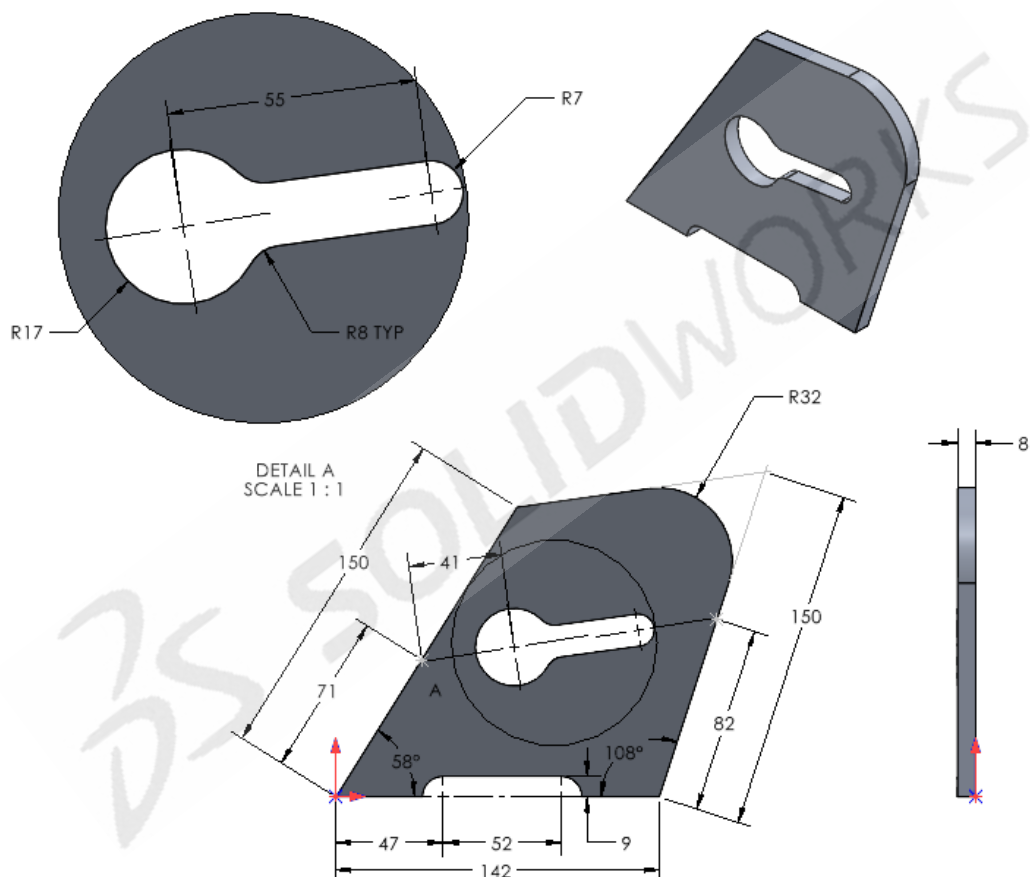
- Units: MMGS
- Difficulty Level: Medium
- Certification: CSWA
- Duration (min): 20
- Design Intent:
 - The part's origin location is indicated in red.
 - The part is *asymmetric*.
 - All sketches are fully-defined.

Suggested Sketch Tools / Features

- Sketch: Lines, Centerlines, Circles, Arcs, Slots
- Features: Extrude Boss

HINT: Use construction lines.

Volume: 109681 mm³



Practice Problem 2.7

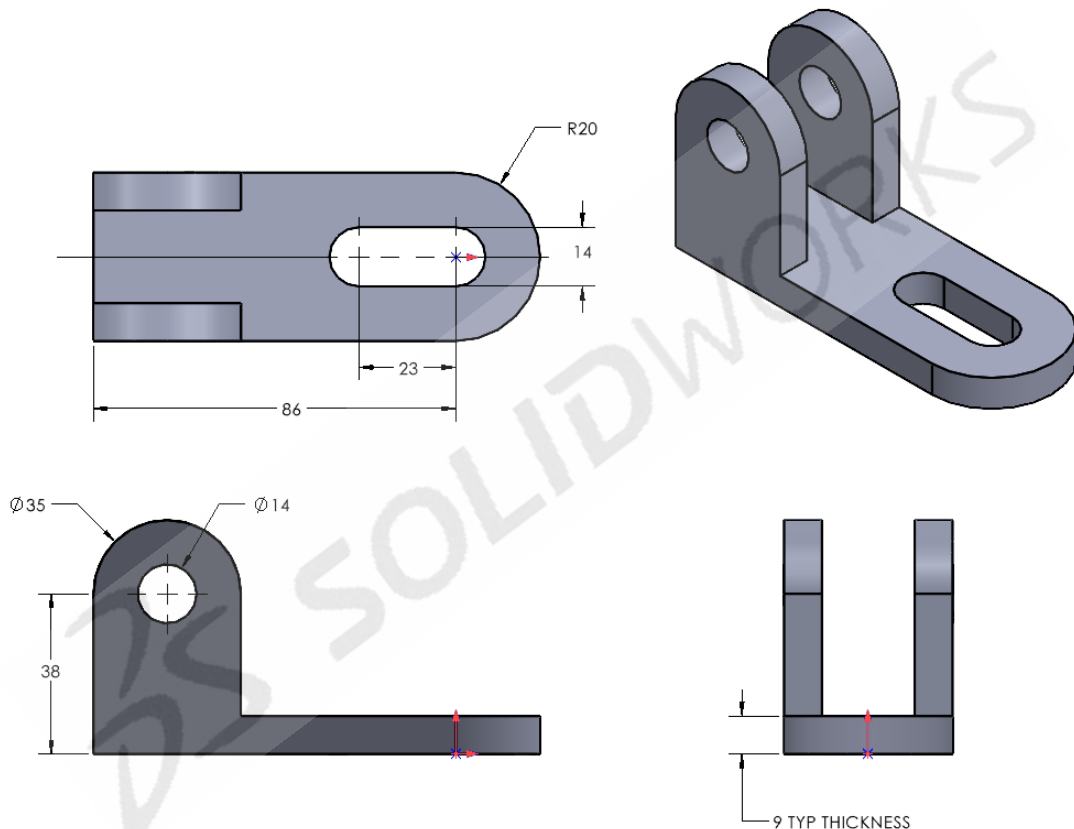
Sketch Tools & End Conditions (Level 2)

- 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, Trim, Rectangles, Slots
- Features: Extrude Boss

Volume: 56490 mm³



Practice Problem 2.8

Sketch Tools & End Conditions (Level 2)

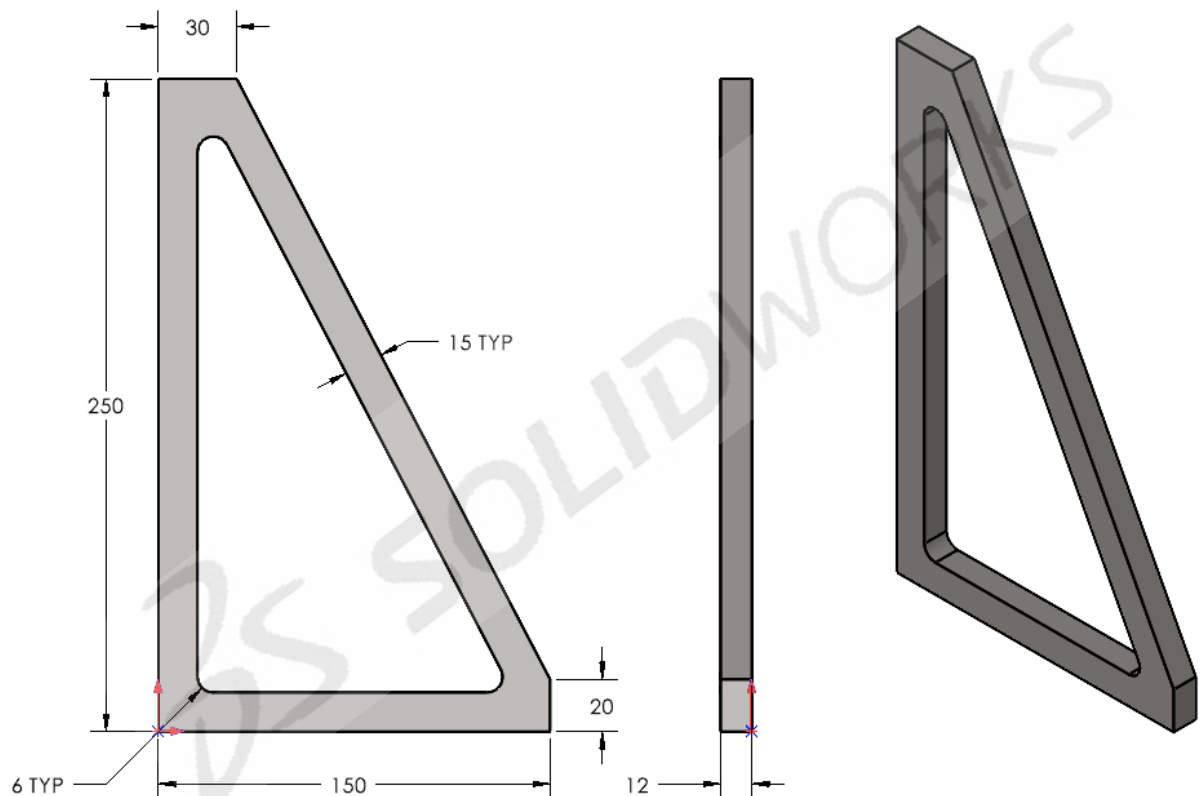
- Units: MMGS
- Difficulty Level: Easy
- Certification: CSWA
- Duration (min): 10
- Design Intent:
 - The part's origin location is indicated in red.
 - All sketches are fully-defined.

Suggested Sketch Tools / Features

- Sketch: Lines, Centerlines, Trim, Offset Entities
- Features: Extrude Boss

HINT: Offset from outer edge.

Volume: 118440 mm³



Practice Problem 2.9

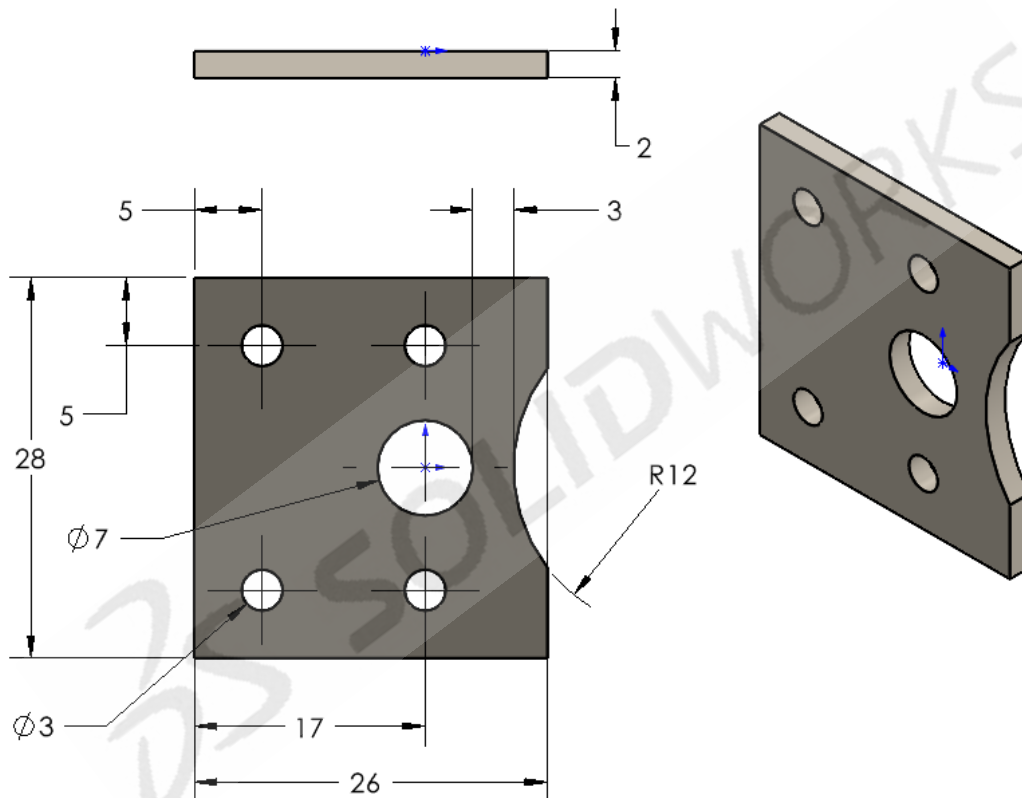
Sketch Tools & End Conditions (Level 2)

- 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, Centerlines, Circles, Trim, Rectangles
- Features: Extrude Boss

Volume: 1273 mm³



Practice Problem 2.10

Sketch Tools & End Conditions (Level 2)

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

HINT: Start with circles, arcs, and lines and trim.

Volume: 36748 mm³

