Multiview Projections 2
First and Third-Angle Projection
Third-Angle Projection

- Used in the United States to determine arrangement of multiviews
- Views projected onto projection plane in front of object
First-Angle Projection

- Used in Europe and Asia to determine arrangement of multiviews
- Views projected onto projection plane behind object
View Selection

- Most descriptive view selected as the front view
- Longest dimension should appear in front view as a horizontal dimension
- Use minimum number of views that completely describe object
- Choose views to minimize number of hidden lines
Simple Part - Two Views Required
Simple Part – One View Required
Line Precedence

When lines coincide with each other, more important lines take precedence over other lines. The order of precedence is:

1. Visible
2. Hidden
3. Center
Intersections and Tangency

- Planar surface tangent to contoured surface → no line drawn
- Planar surface intersects a contoured surface → line (edge) drawn
Fillets and Rounds

- **Fillet** – inside rounding on a cast, forged or plastic part
- **Round** – outside rounding on a cast, forged or plastic part
- Typically 3 - 5 mm radius
- In multiview drawings, fillets/rounds only represented in views where you see curved shape
Fillets and Rounds - Conventions

- No true change in planes when surfaces are related by a fillet/round
- Multiview convention - add lines as if fillets/rounds were absent
Revolution Conventions

- True multiview projections can be confusing when showing radially distributed features.

- By convention, these views are typically simplified by rotating the radial features along horizontal and vertical centerlines.
Machined Holes

- Blind
- Counterbore
- Spotface
- Through
- Countersink
- Threaded
Multiview Sketch Procedure

Given

Step 1

Step 2

Step 3

Step 4

Completed sketch
Multiview Projections - 2