

## BASIC SURFACES FOR ENGINEERING



Figure 00. Main stairs of Engineering School of Bilbao II. Picture made by the authors, 2018.

### 5. Surfaces intersection exercises

## 5. SURFACES INTERSECTION EXERCISES

See the corresponding section in the teaching guide to evaluate the level reached in the performance of the exercises.

### E. STATEMENT

**E.1.** Draw the projections of the line of intersection between prisms. Complete the freehand perspective.

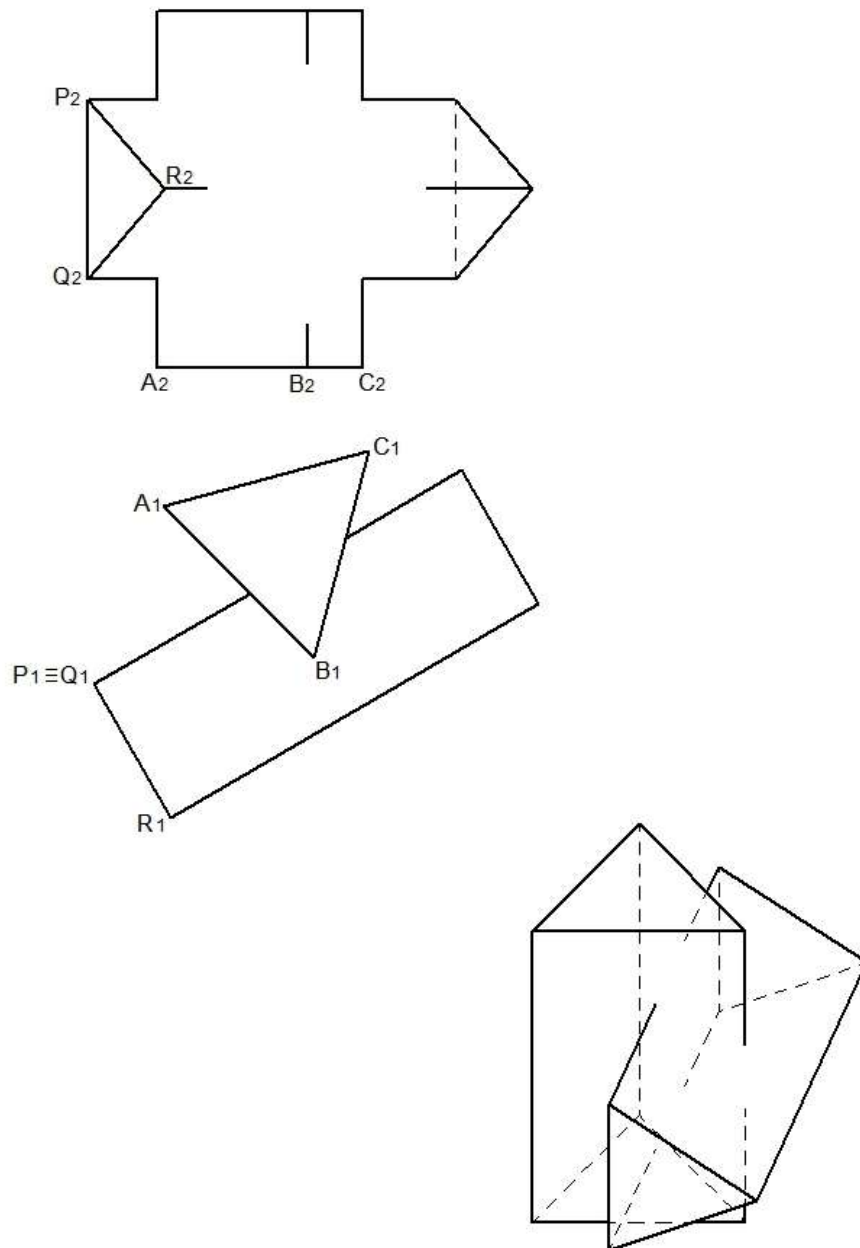


Figure 5.1. Intersection between prisms. (Image made with Solid Edge)

**E.2.** Draw the projections of the line of intersection of the inlet duct in the decanter (intersection between cylinders). Complete the freehand perspective. Textually express the type of resulting curve.

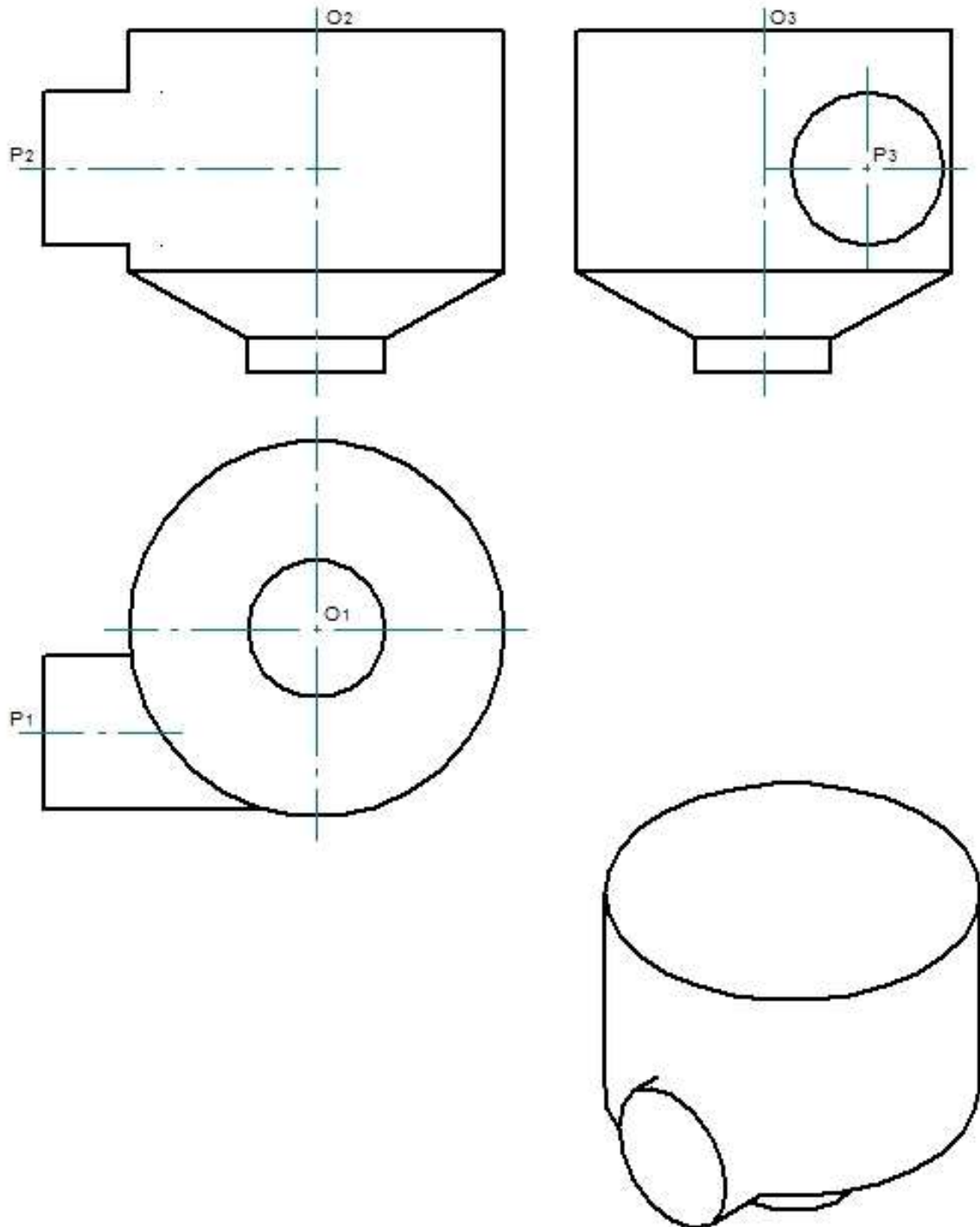


Figure 5.2. Intersection between cylinders. (Image made with Solid Edge)

**E.3.** Draw the projections of the sphere by removing the volume of the cylinder. Complete the freehand perspective. Textually express the type of resulting curve.

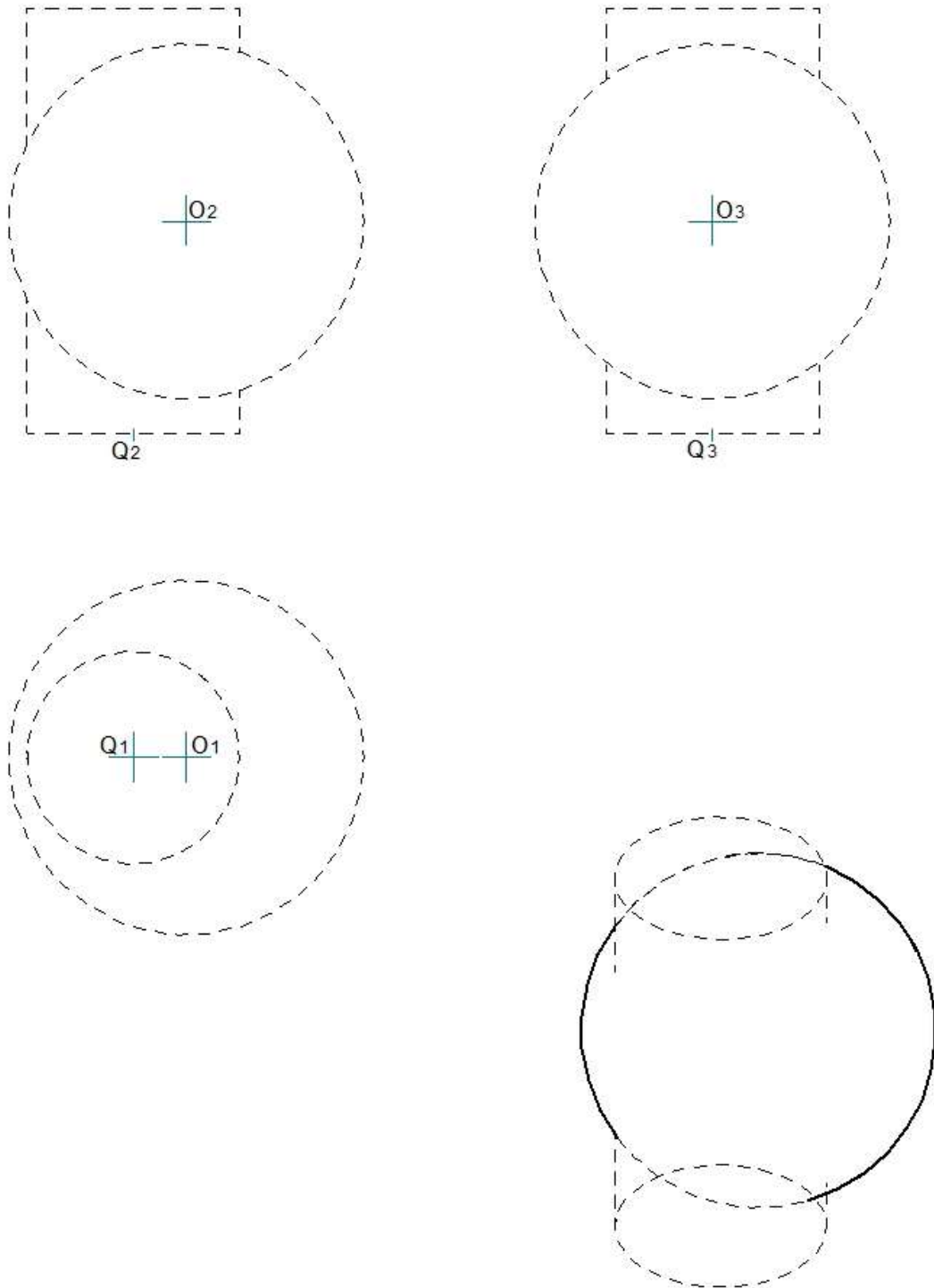


Figure 5.3. Intersection between cylinder and sphere. (Image made with Solid Edge)

**E.4.** Draw the projections of the line of intersection between the pyramid and the prism. Complete the freehand perspective.

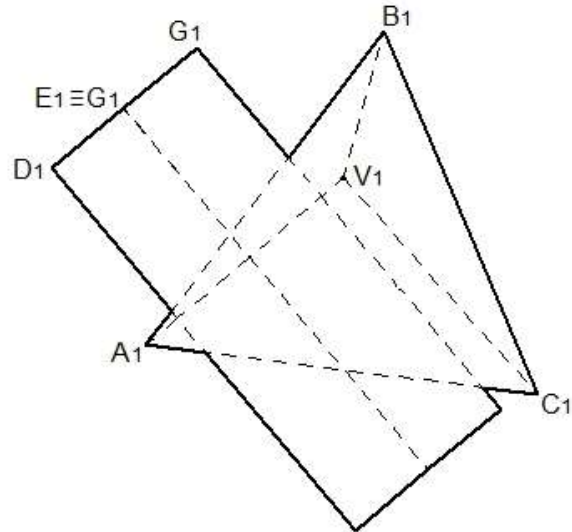
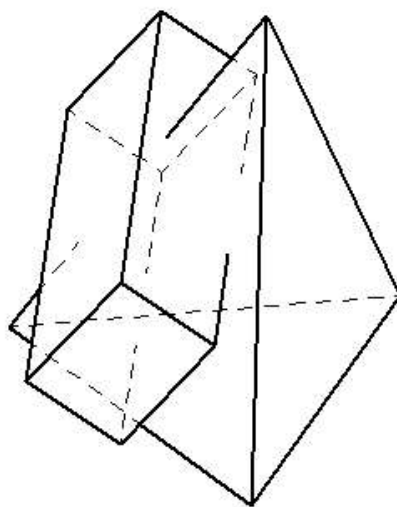
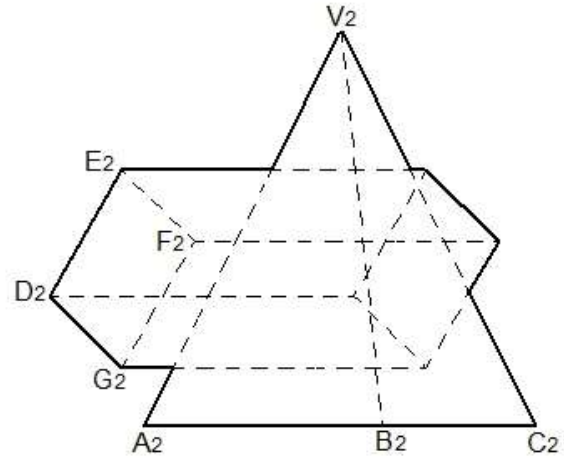


Figure 5.4. Intersection between pyramid and prism. (Image made with Solid Edge)

**E.5.** Draw the projections of the line of intersection between the cone and the cylinder. Complete the freehand perspective. Textually express the type of resulting curve.

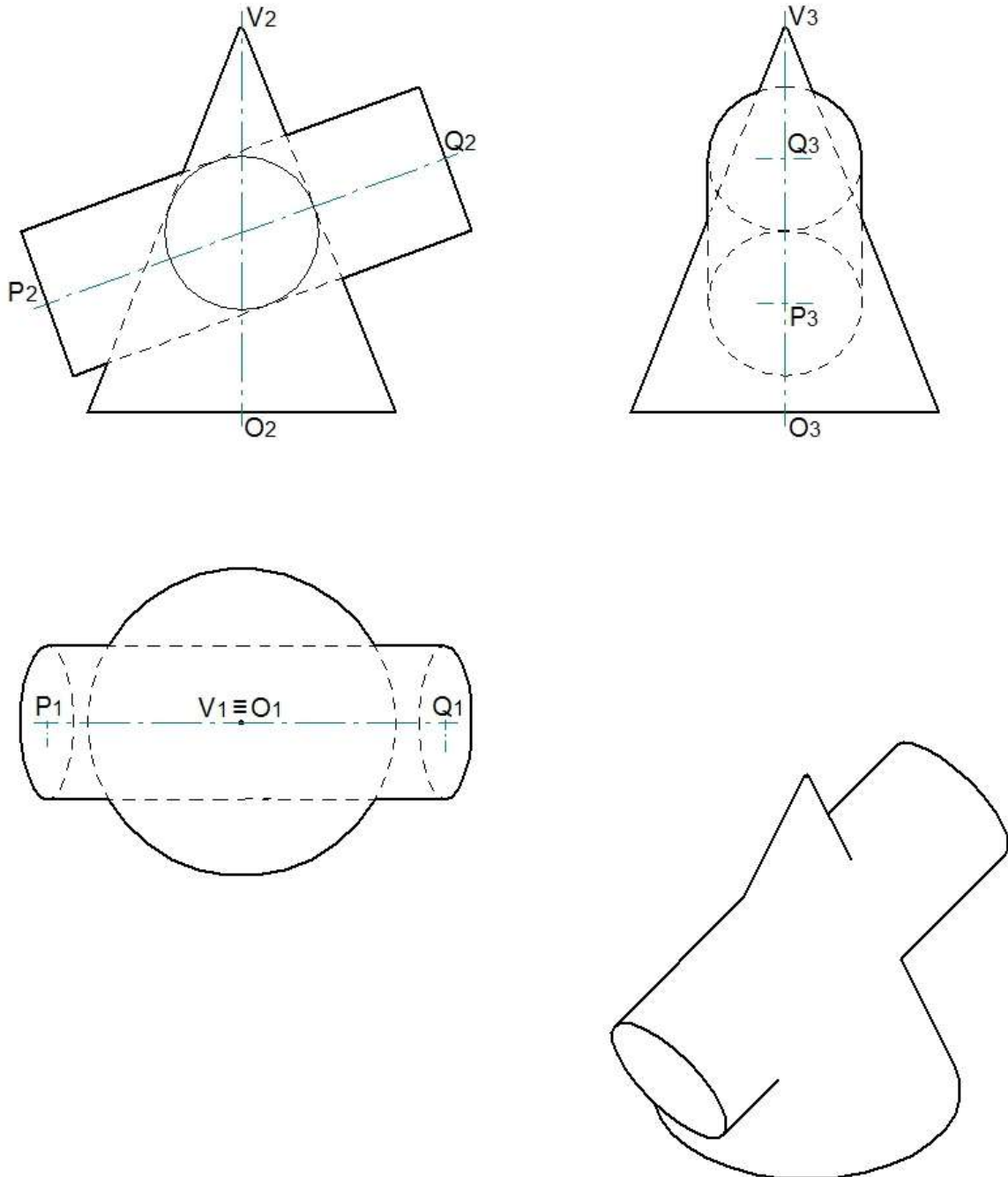


Figure 5.5. Intersection between cone and cylinder. (Image made with Solid Edge)

## S. SOLUTIONS

### S.1. Intersection between prisms.

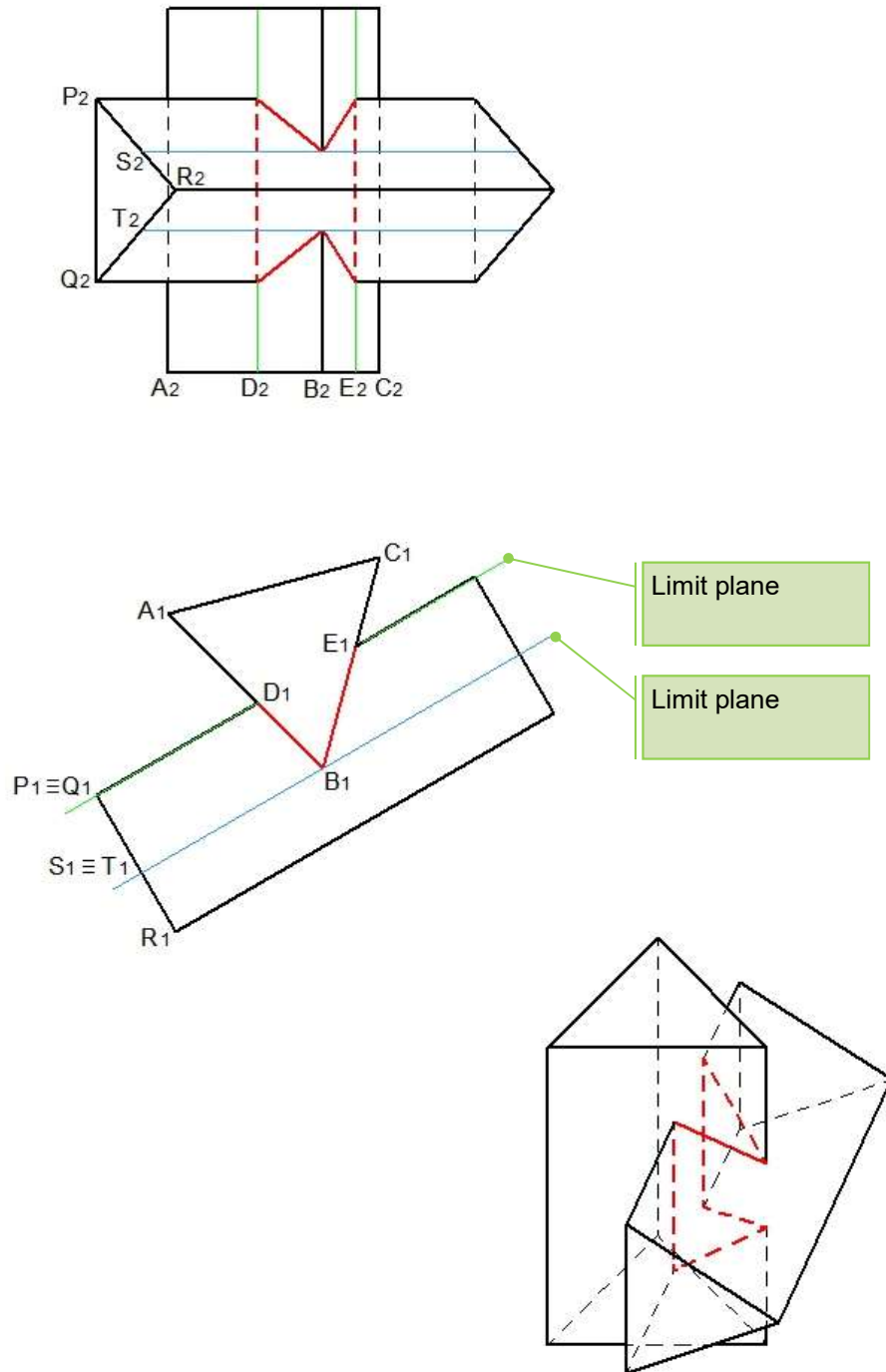


Figure 5.6. Intersection between prisms. (Image made with Solid Edge)

S.2. Inlet duct in the decanter.

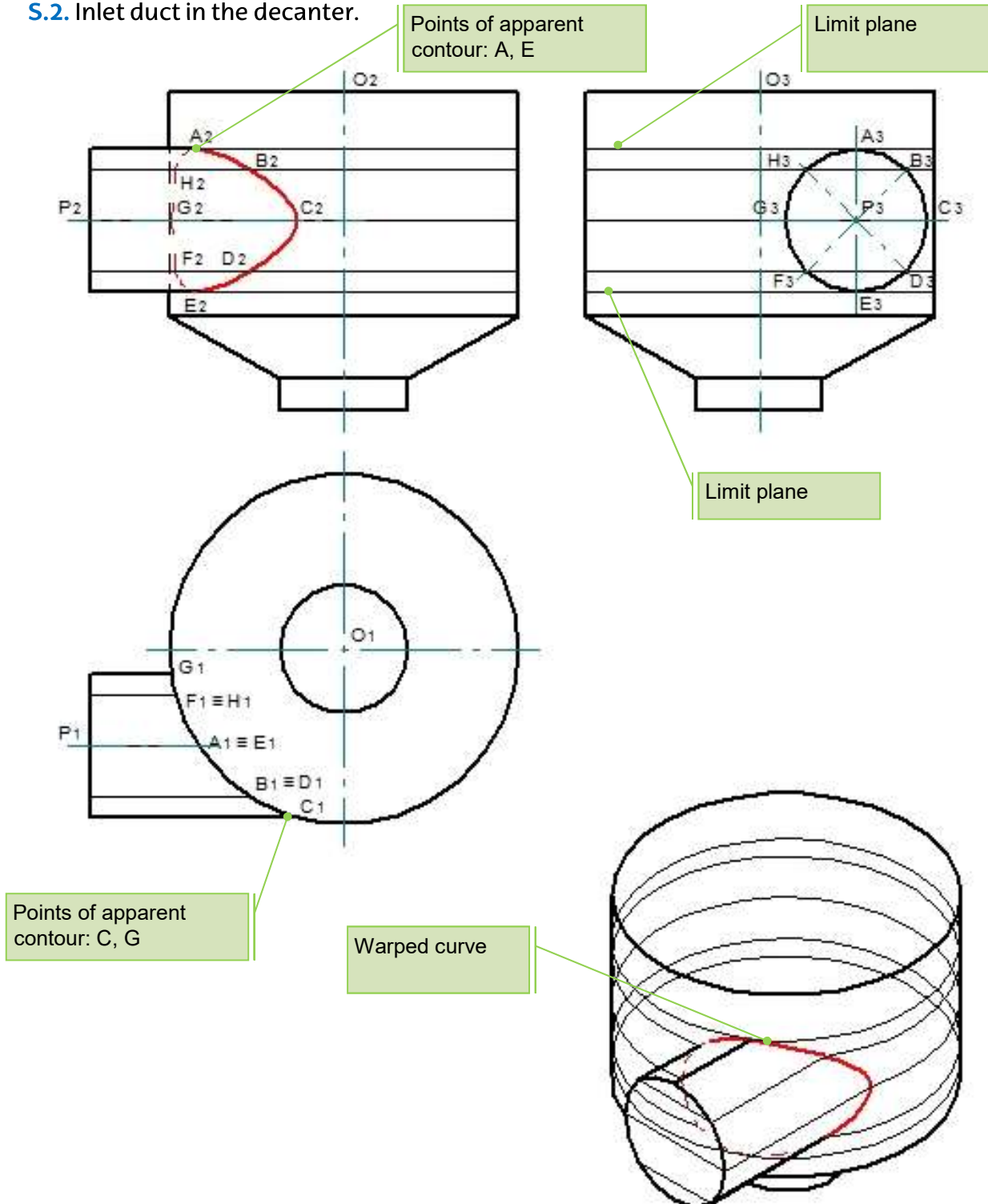


Figure 5.7. Intersection between cylinders (Image made with Solid Edge)



### S.3. Intersection between cylinder and sphere.

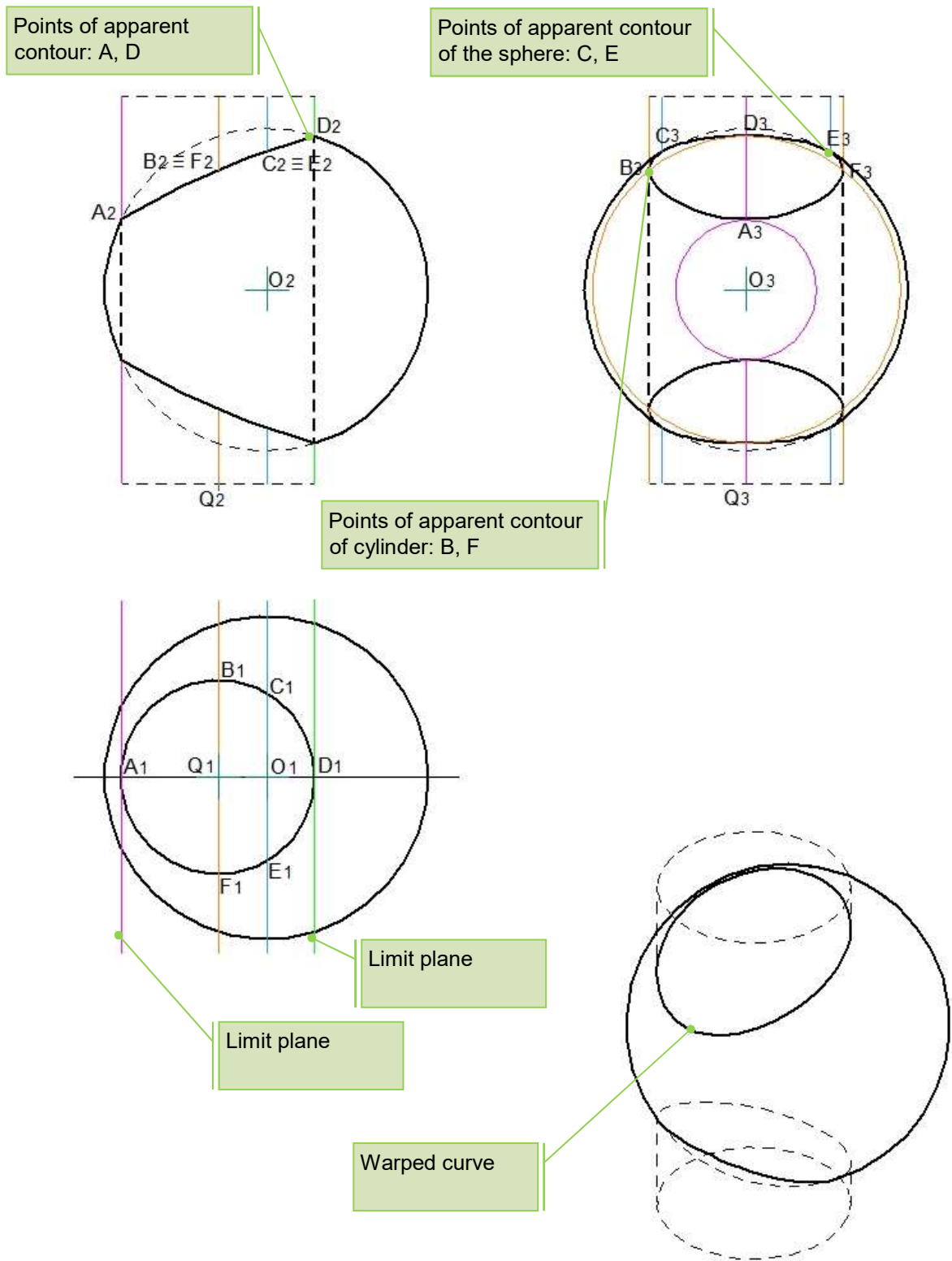


Figure 5.8. Intersection between cylinder and sphere (Image made with Solid Edge)

S.4. Intersection between pyramid and prism.

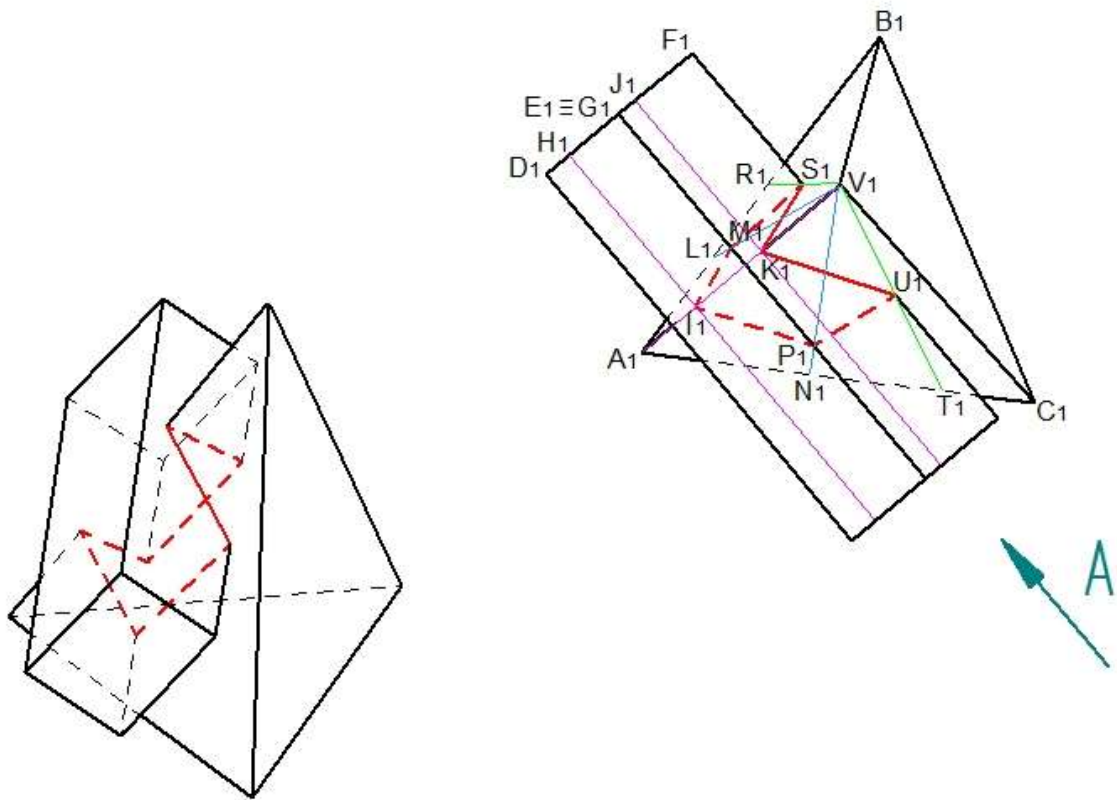
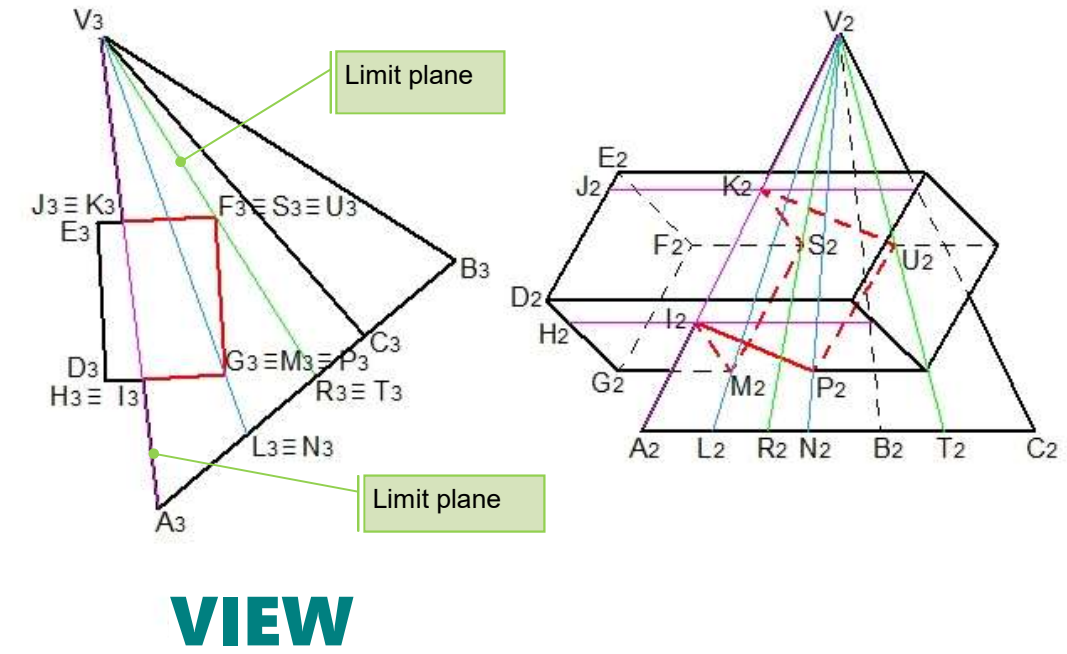


Figure 5.9. Intersection between pyramid and prism (Image made with Solid Edge)

S.5. Intersection between cone and cylinder.

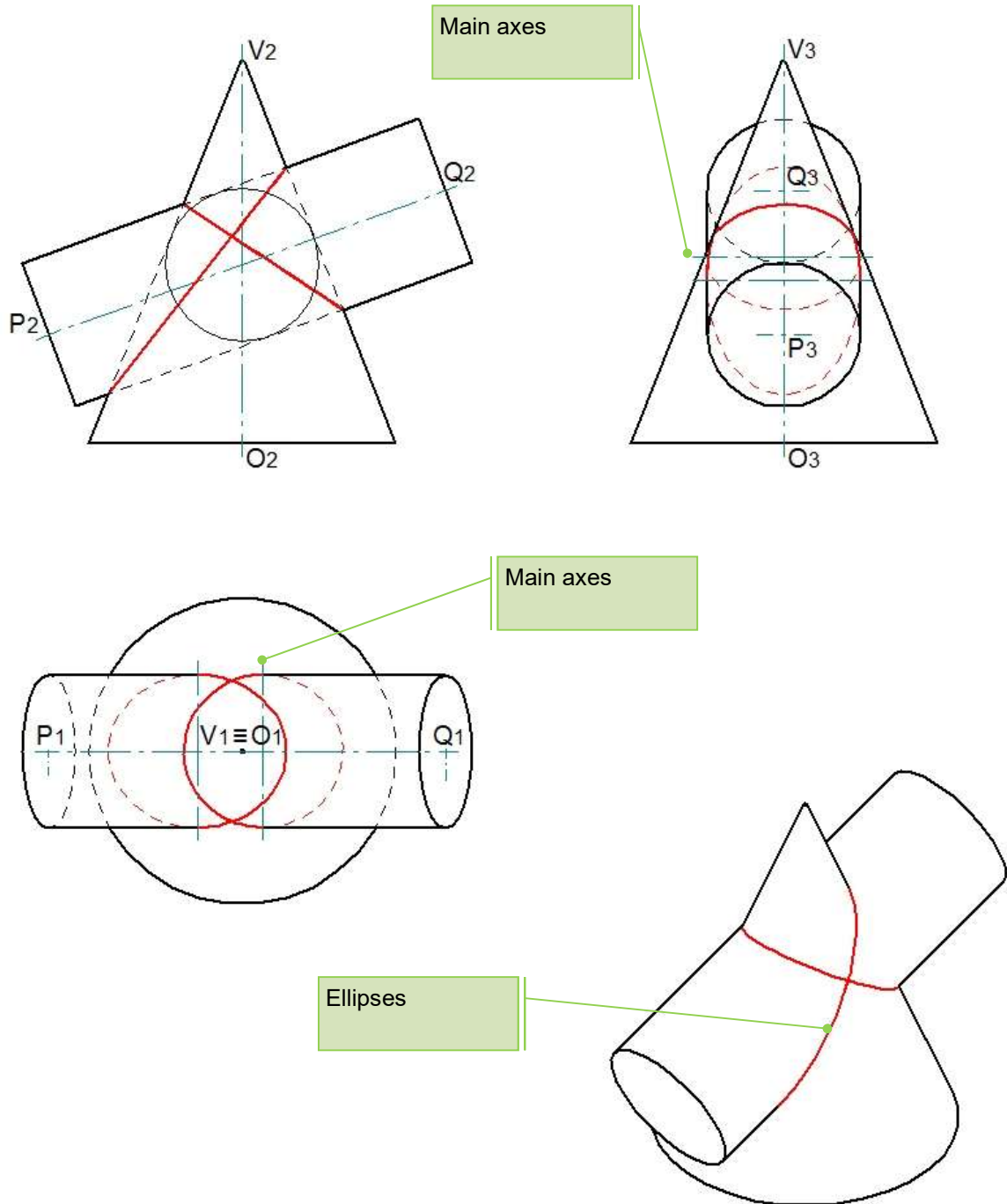


Figure 5.10. Intersection between cone and cylinder (Image made with Solid Edge)



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