OCW
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UPV EHU

BASIC SURFACES FOR ENGINEERING

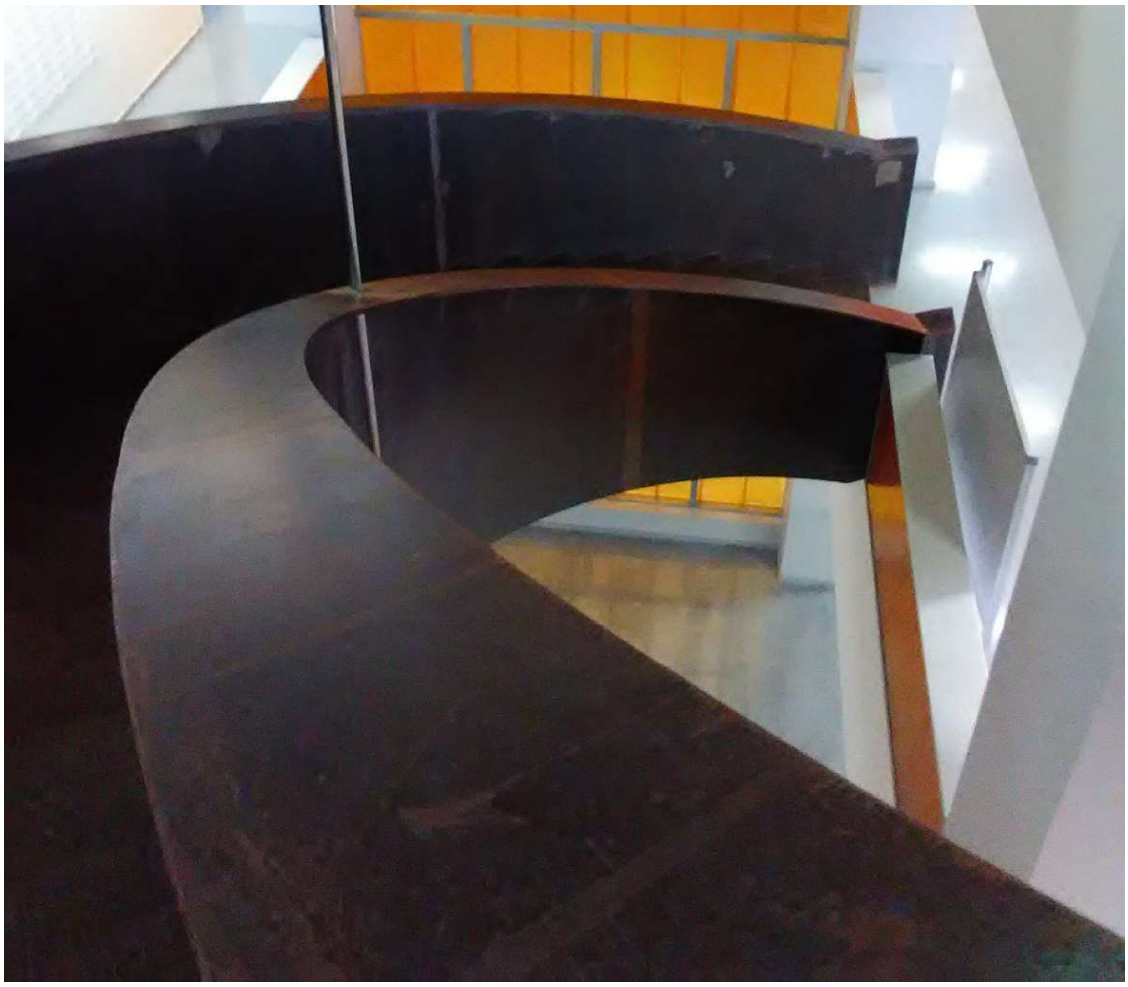

Figure 00. Main stairs of Engineering School of Bilbao II. Picture made by the authors, 2018.

3. Exercises of flat section of surfaces

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3. FLAT SECTION EXERCISES OF SURFACES

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

E. STATEMENT

E.1. Find the projections of the straight section of the prism passing through point P. Find the true magnitude of the section. Display the prism.

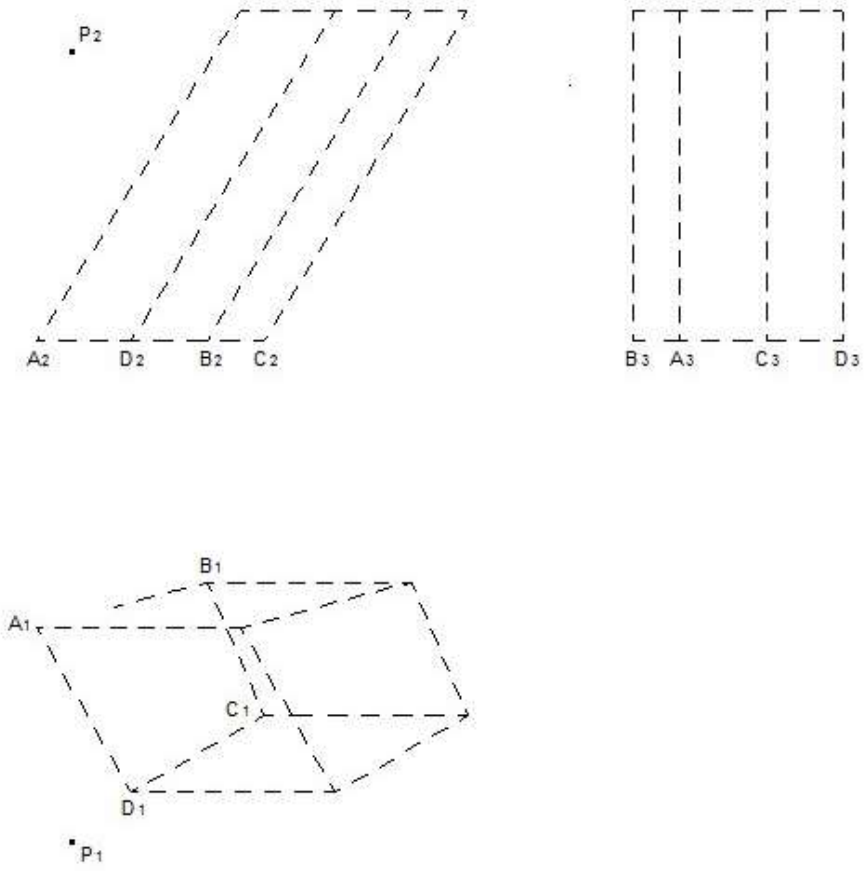

Figure 3.1. Prism to obtain the straight section (Image made with Solid Edge)

E.2. Find the projections of the flat section generated when the pyramid is cut by the KLMN plane. Find the true extent of the section. Display the assembly.

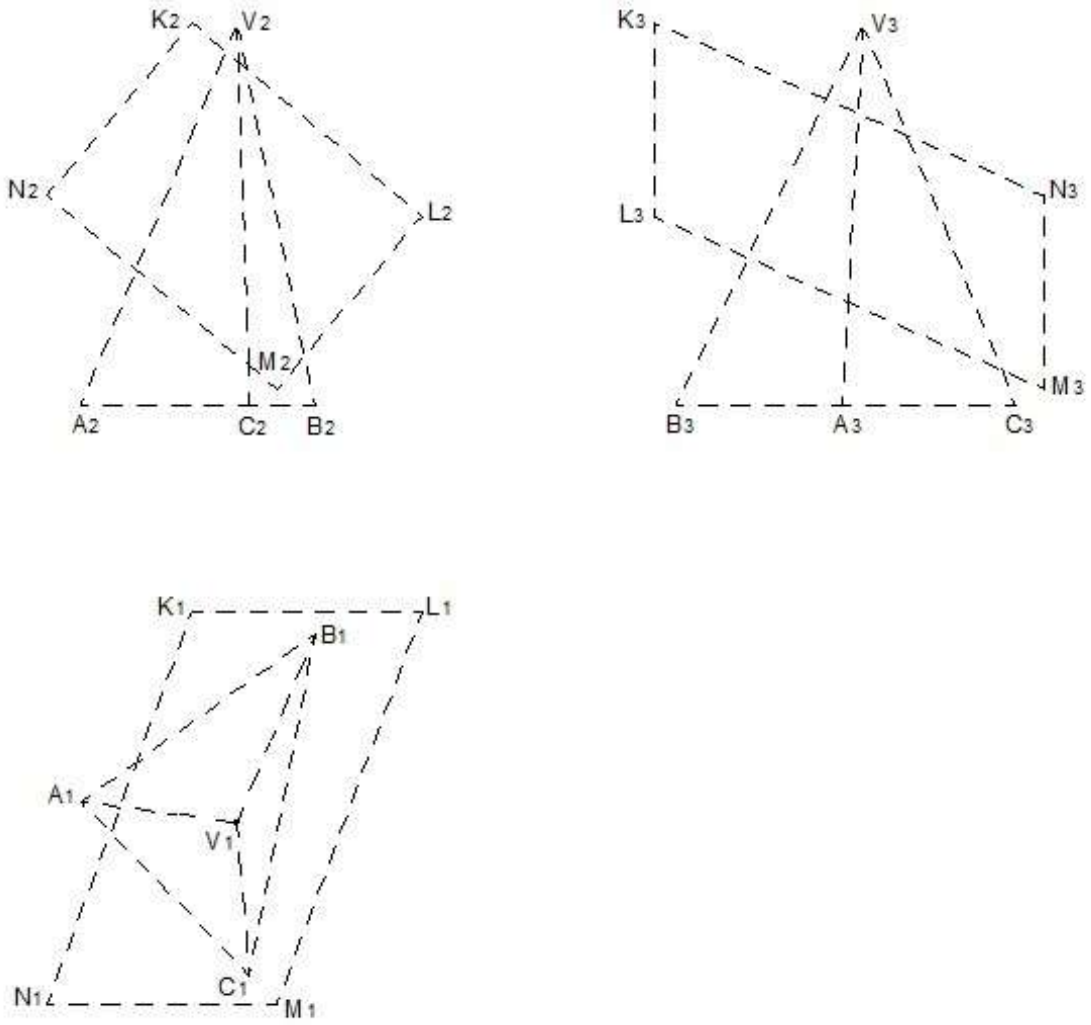

Figure 3.2. Pyramid to obtain the flat section (Image made with Solid Edge)

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E.3. Find the projections of the flat section generated when the cylinder is cut by the KLMN plane. Find the true extent of the section. Express textually the type of the resulting curve. Display the assembly.

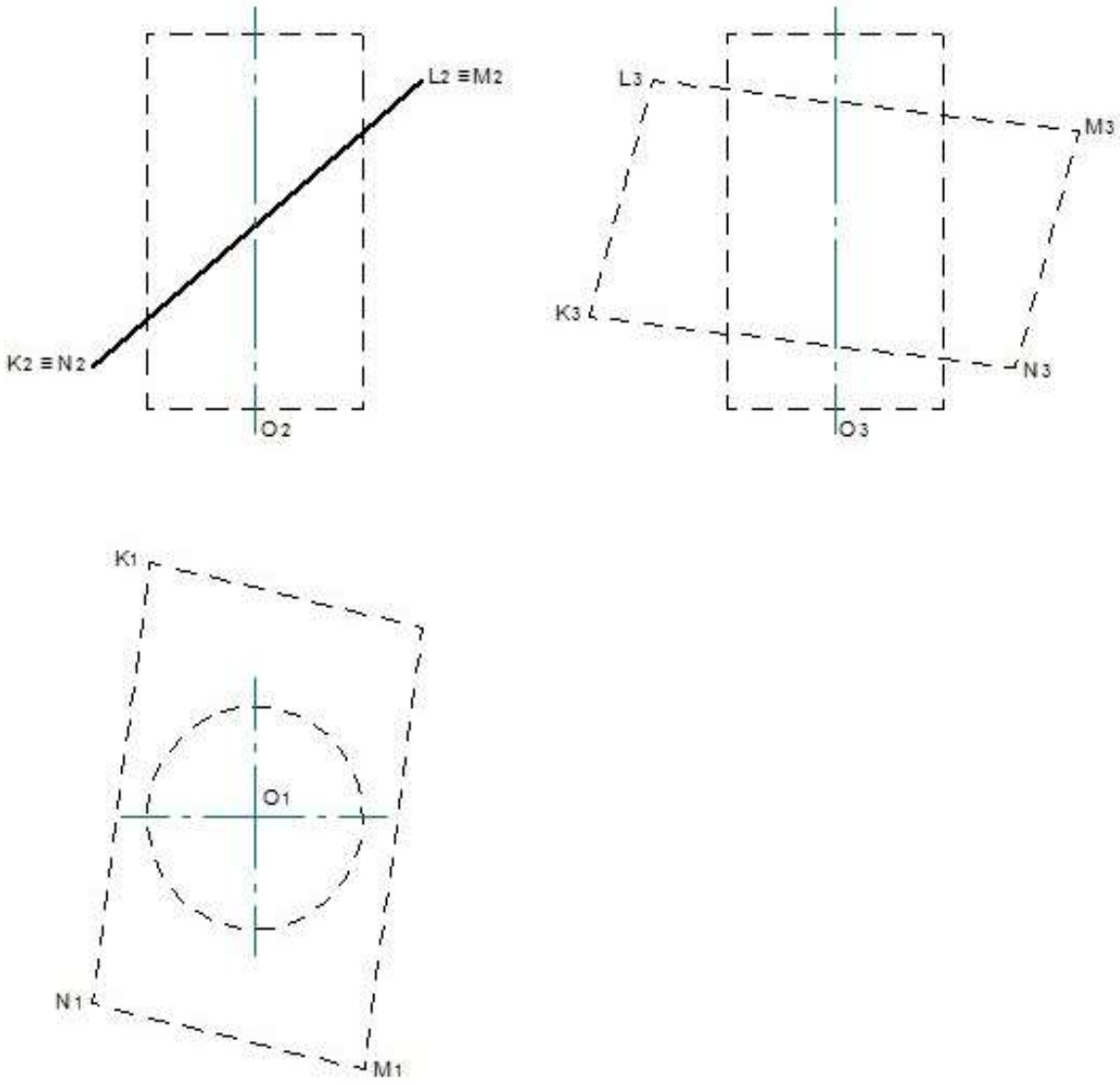

Figure 3.3. Cylinder to obtain the flat section (Image made with Solid Edge)

E. 4. Find the projections of the flat section generated when the cone is cut by the MN trace plane. Find the true extent of the section. Express textually the type of resulting curve. Display the assembly.

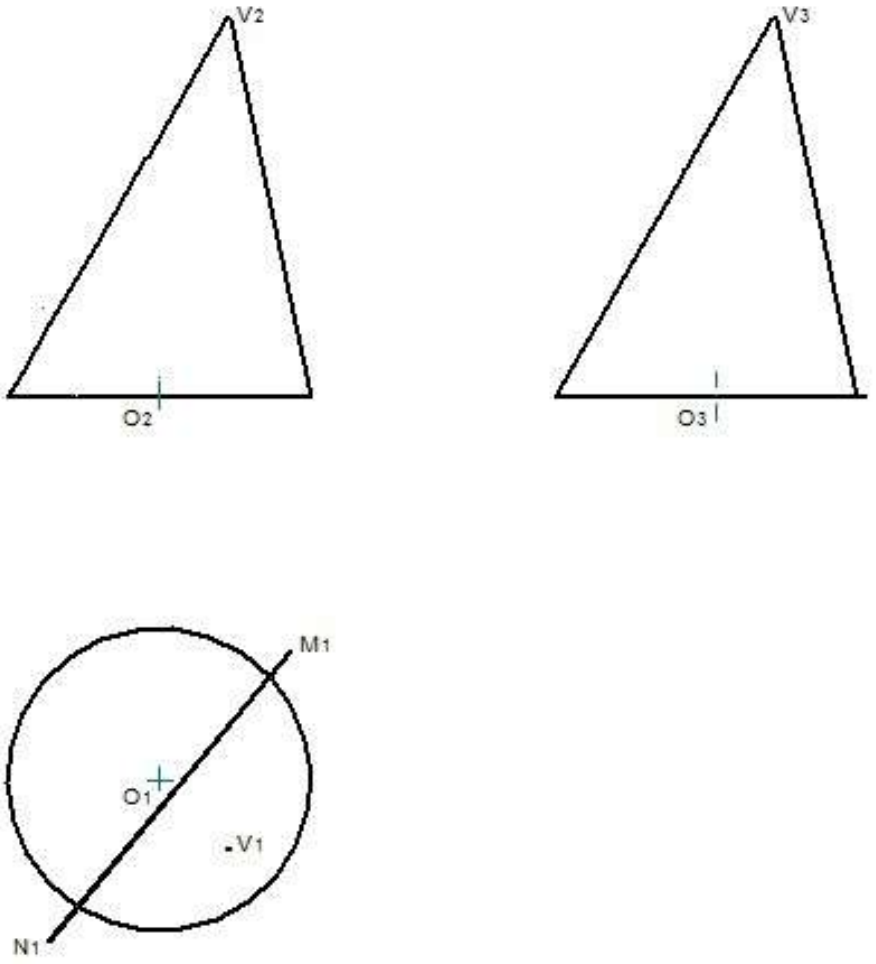

Figure 3.4. Cone to obtain the flat section (Image made with Solid Edge)

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E. 5. Find the projections of the intersection between the sphere and the line represented. Display the line. Display.

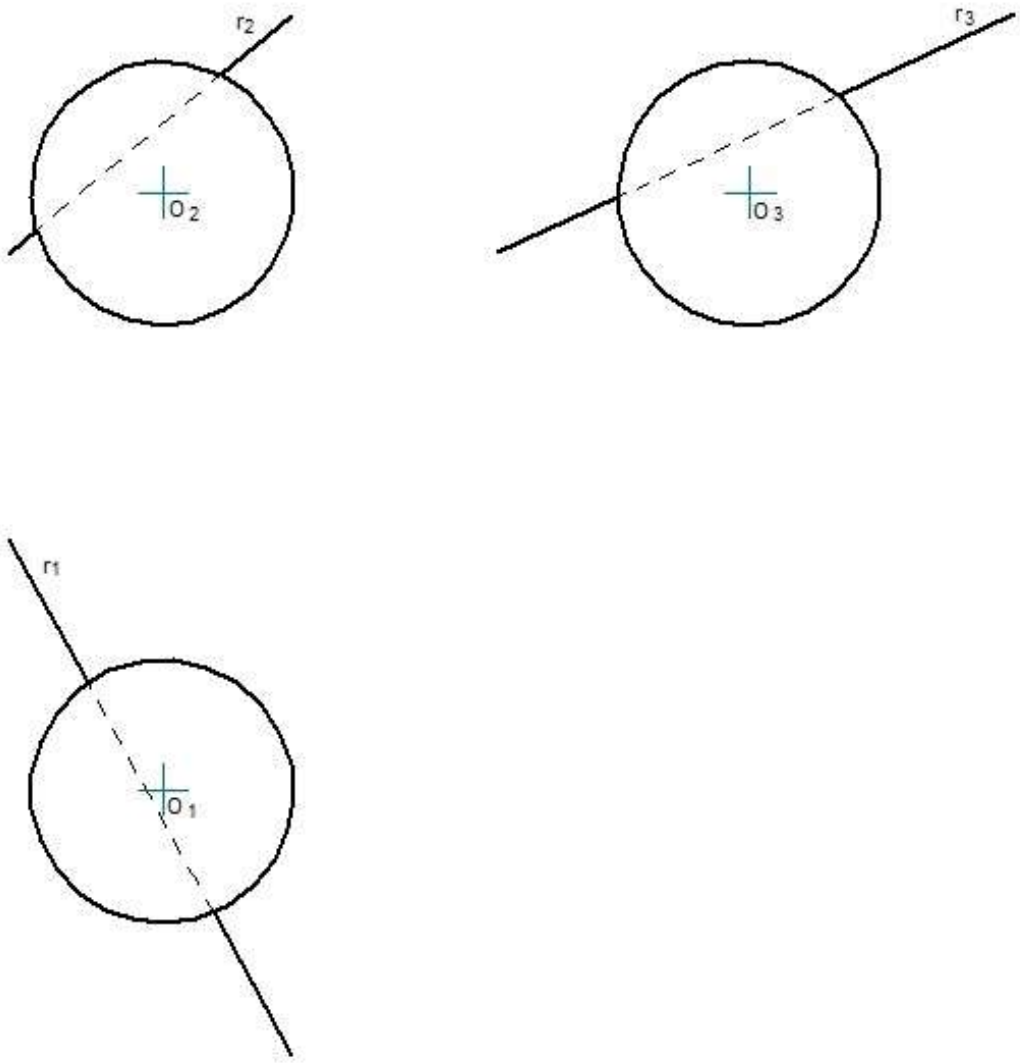

Figure 3.5. Find the intersection of the sphere and the line (Image made with Solid Edge)

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S. SOLUTIONS

S.1. Find the projections of the straight section of the prism passing through point P. Find the true magnitude of the section. Display the prism

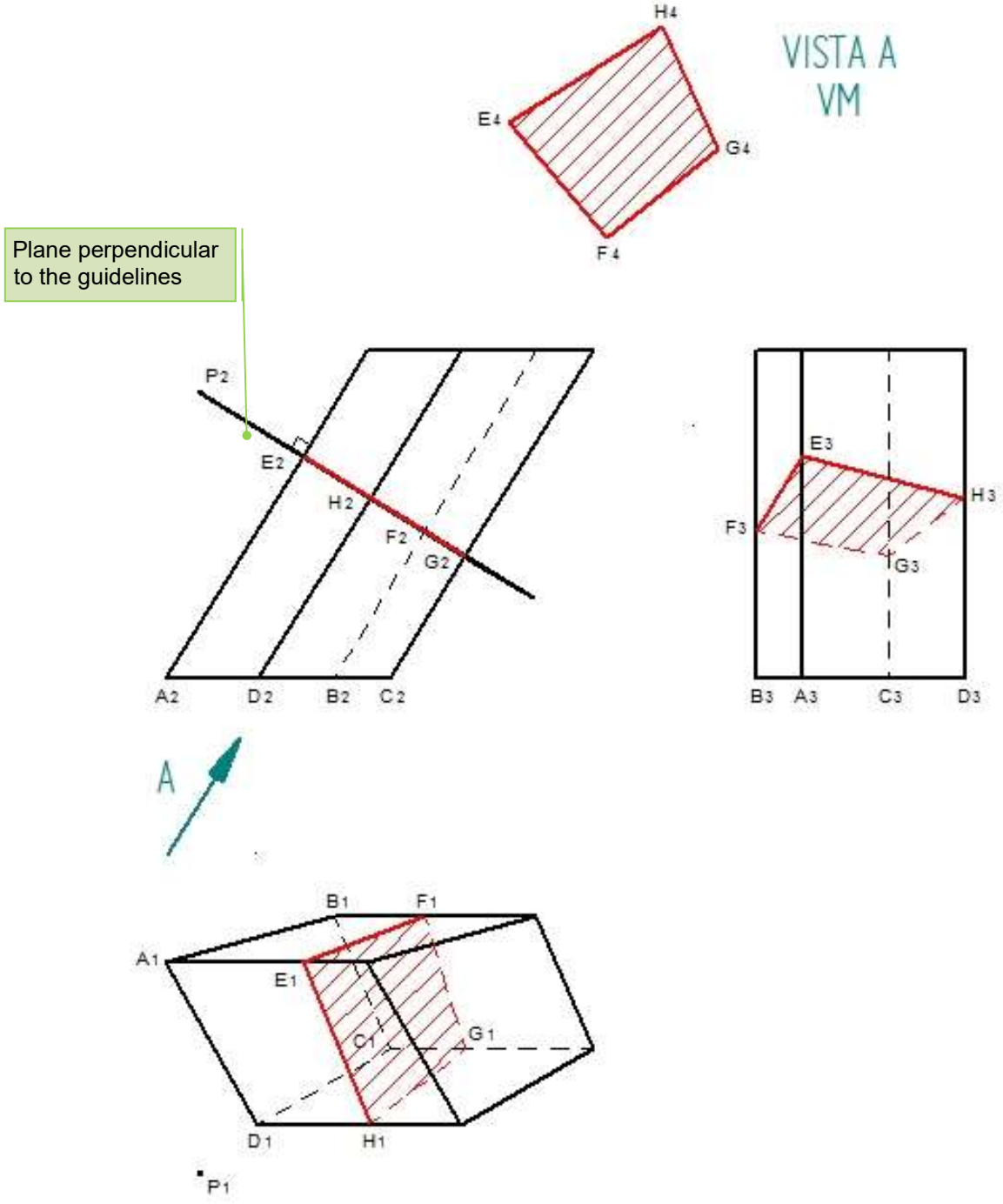

Figure 3.6. Straight section of the prism (Image made with Solid Edge)

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S.2. Find the projections of the flat section generated when the pyramid is cut by the KLMN plane. Find the true extent of the section. Display the assembly.

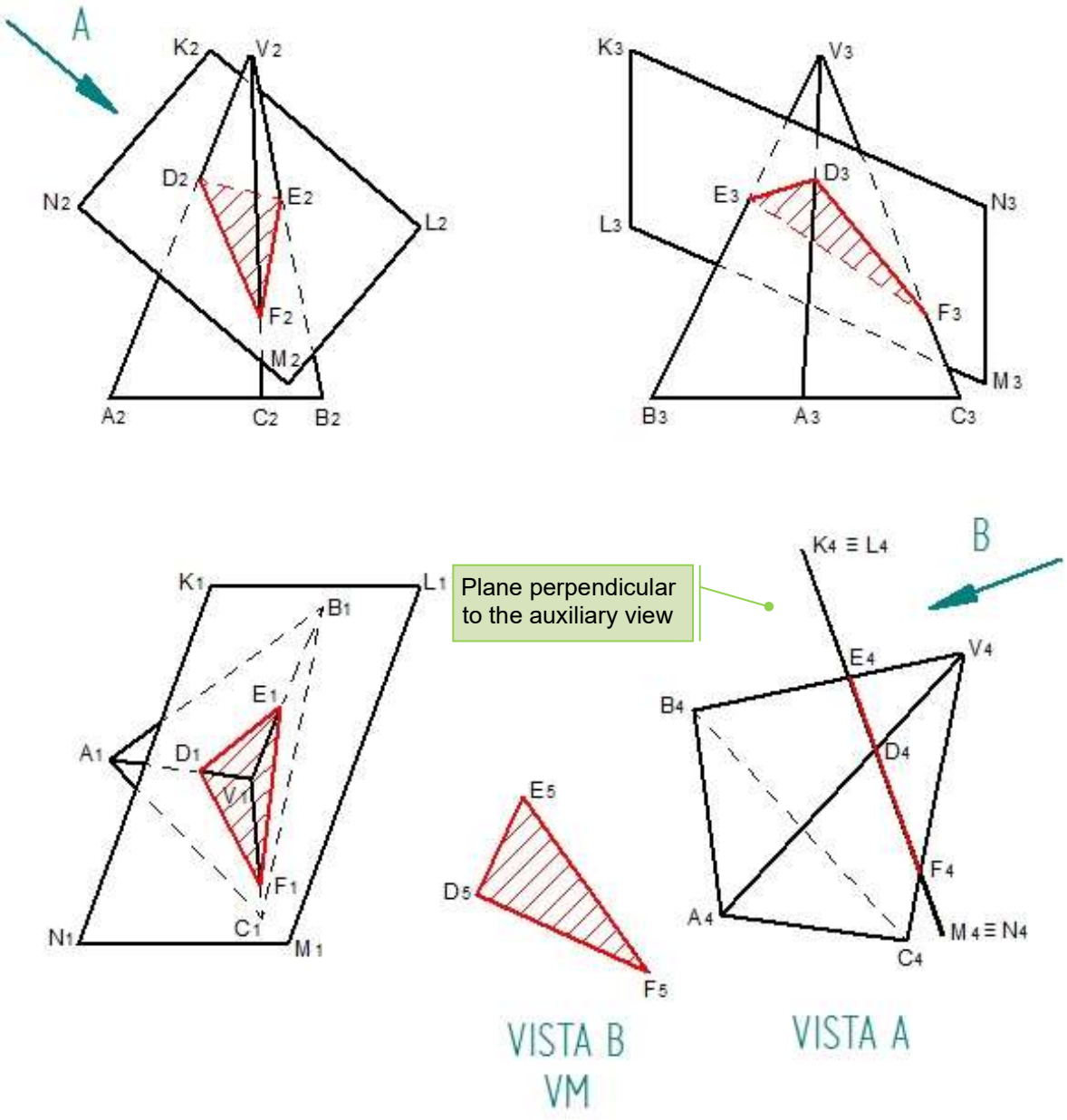

Figure 3.7. Flat section of the pyramid (Image made with Solid Edge)

S. 3. Find the projections of the flat section generated when the cylinder is cut by the KLMN plane. Find the true extent of the section. Express textually the type of the resulting curve. Display the assembly.

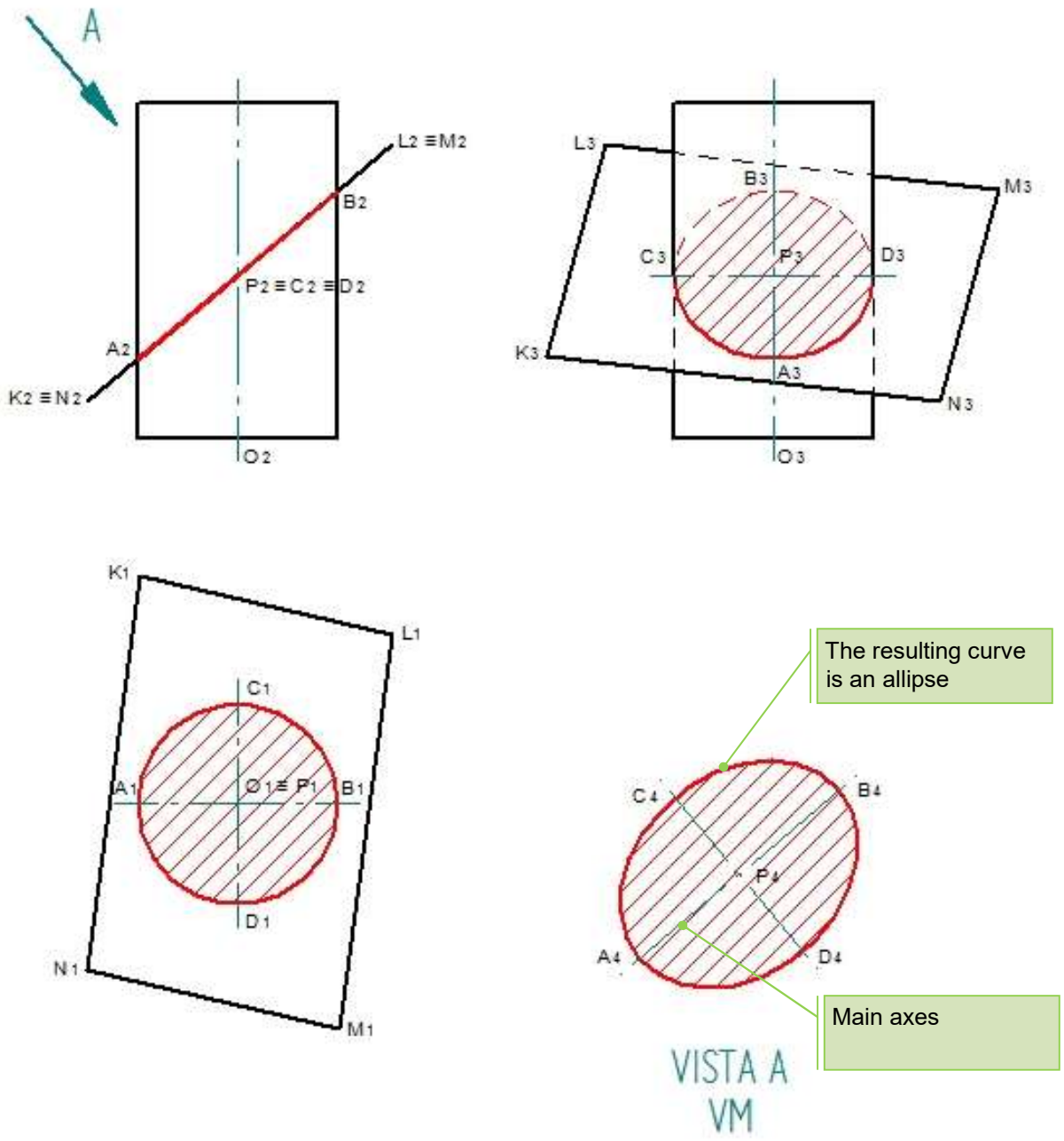

Figure 3.8. Flat section of the cylinder (Image made with Solid Edge)

S. 4. Find the projections of the flat section generated when the cone is cut by the MN trace plane. Find the true extent of the section. Express textually the type of resulting curve. Display the assembly.

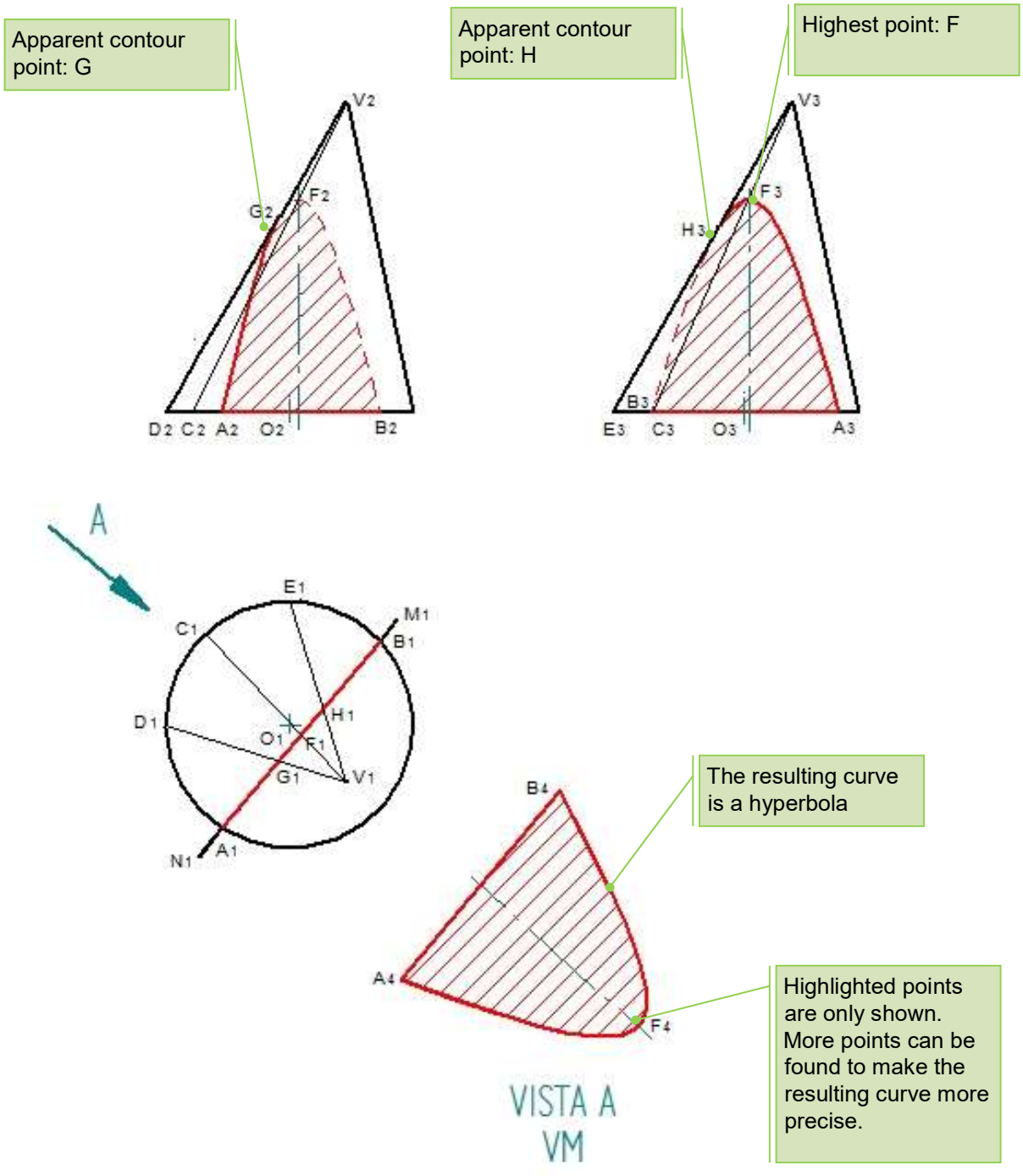

Figure 3.9. Plan section of the cone (Image made with Solid Edge)

S. 5. Find the projections of the intersection between the sphere and the line represented. Display the line. Display

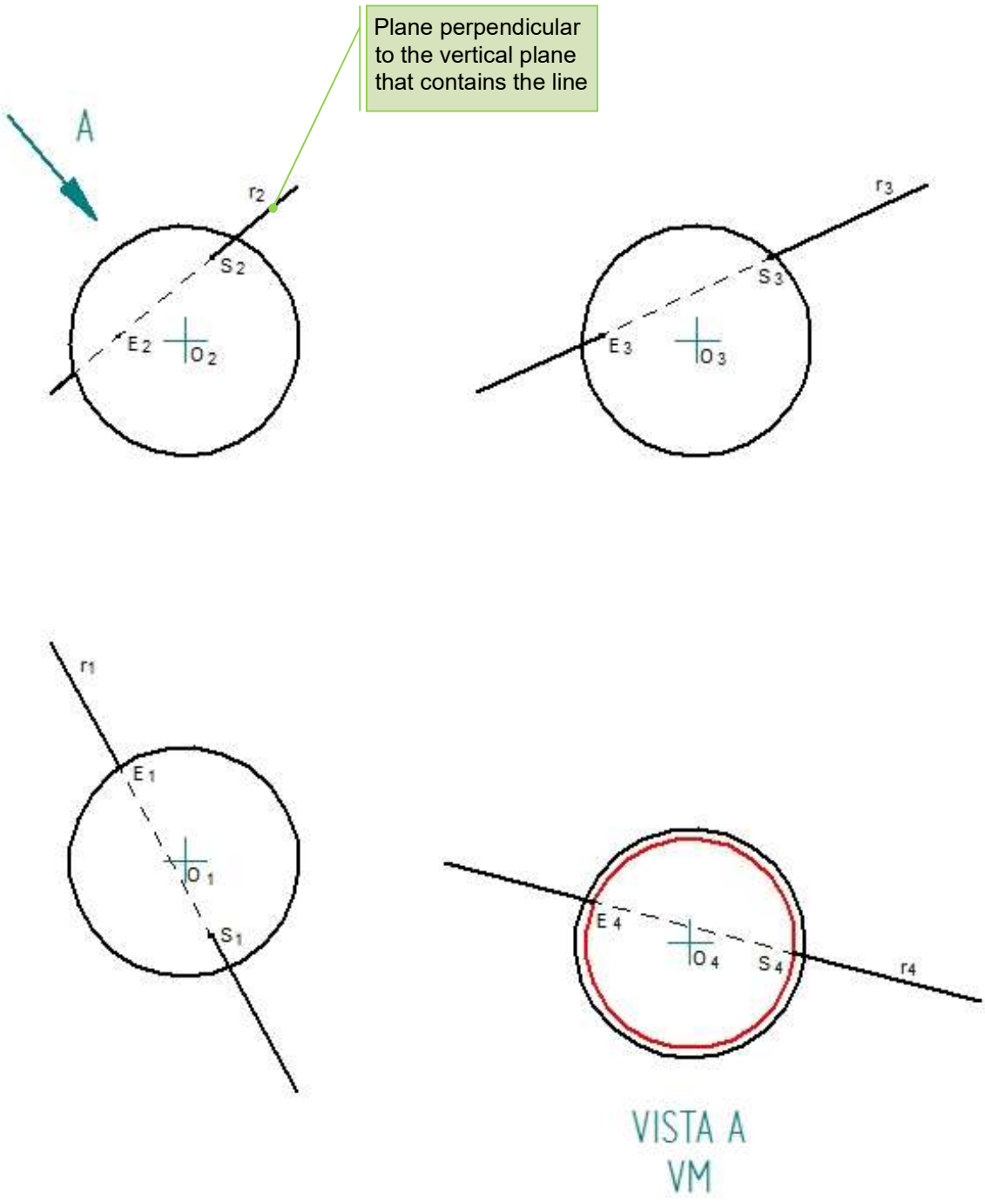

Figure 3.10. Sphere intersection with line (Image made with Solid Edge)

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