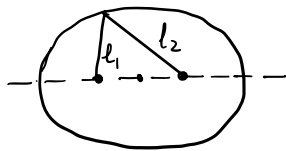


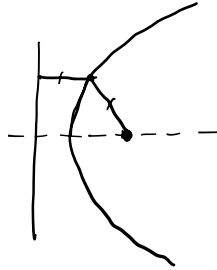
Conic curves.

ellipse

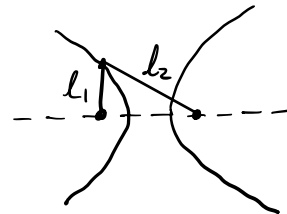


$$l_1 + l_2 = \text{const.}$$

parabola

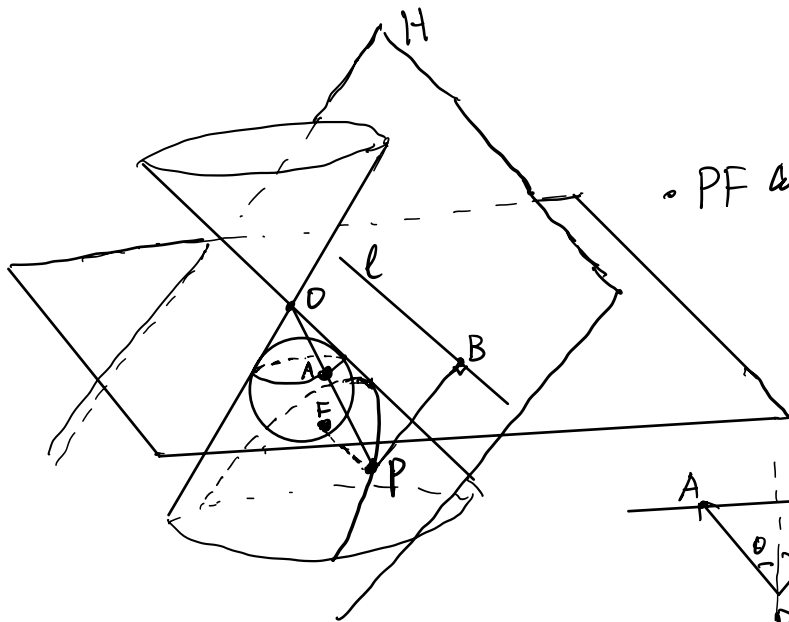


hyperbola



$$|l_2 - l_1| = \text{const.}$$

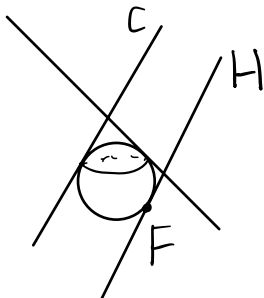
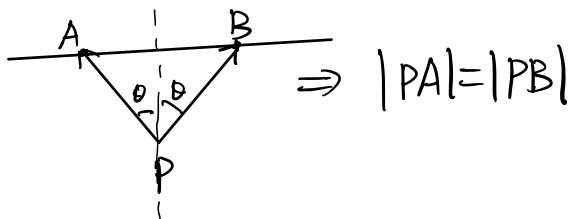
• conic section: parabola.



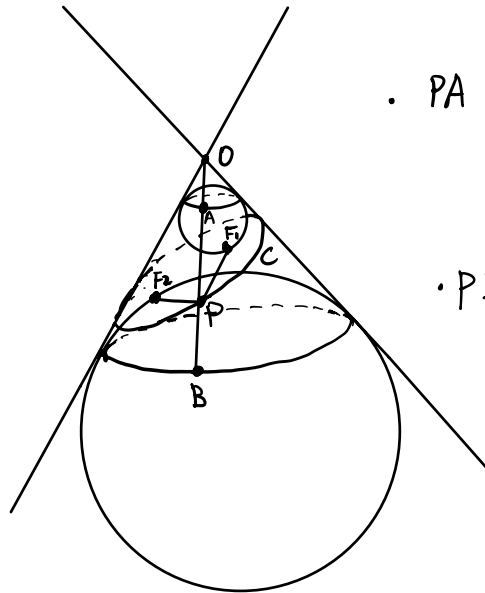
• PF and PA tangent to the sphere



$$|PF| = |PA|$$



ellipse



• PA and PF_1 tangent to top sphere

$\Downarrow$

$$|PA| = |PF_1|$$

• PB and PF_2 tangent to lower sphere

$\Downarrow$

$$|PB| = |PF_2|$$

$\Rightarrow |PF_1| + |PF_2| = |PA| + |PB| = |AB|$ does not depend on $P \in C$

$$C = \text{cone} \cap H$$

$\Rightarrow C$ is an ellipse.

