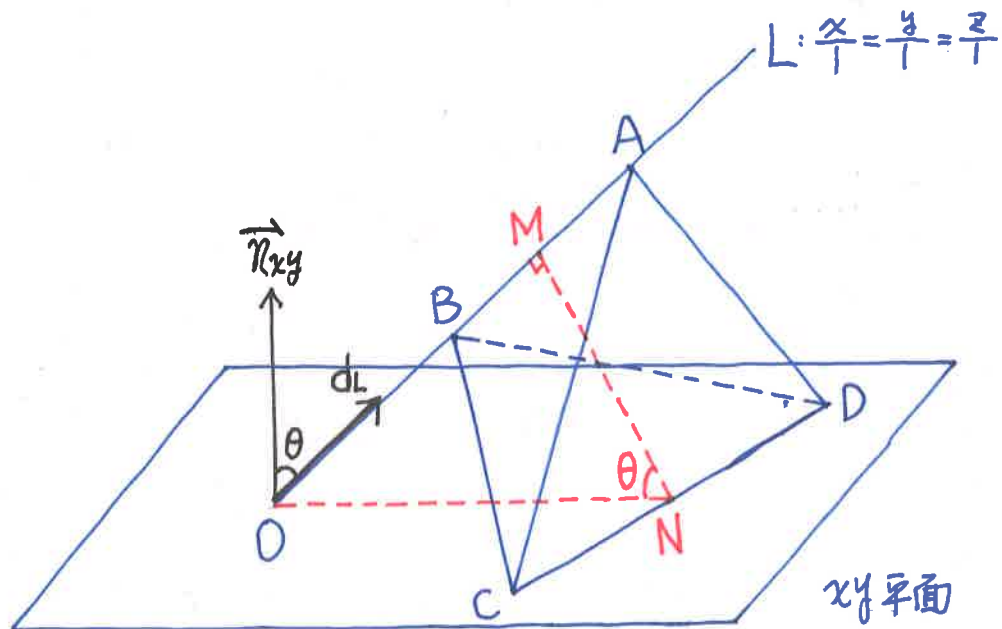


9.



設正四面體棱長為 k

$$\text{體積} = \frac{\sqrt{2}}{12} k^3 = 72 \Rightarrow k = 6\sqrt{2}$$

分別取 AB, CD 中點 M, N

$$\overline{MN} = \frac{\sqrt{2}}{2} k = 6$$

$$\cos \theta = \frac{\vec{n}_{xy} \cdot \vec{d}_L}{|\vec{n}_{xy}| \cdot |\vec{d}_L|} = \frac{(0, 0, 1) \cdot (1, 1, 1)}{|(0, 0, 1)| \cdot |(1, 1, 1)|} = \frac{1}{\sqrt{3}}$$

$$\overline{OM} = \overline{MN} \tan \theta = 6\sqrt{2}$$

$$\overline{OA} = \overline{OM} + \overline{MA} = \sqrt{3}a = 9\sqrt{2} \Rightarrow a = 3\sqrt{6}$$