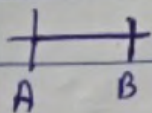
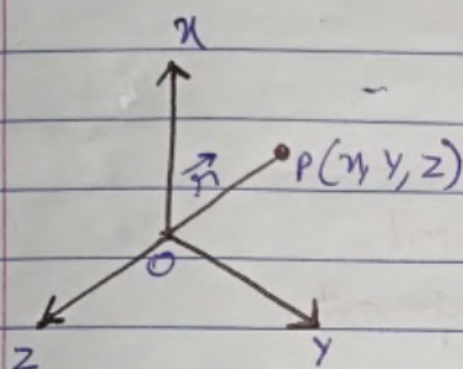
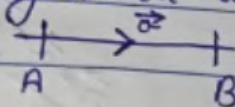


Vectors

Scalar $\rightarrow$ Magnitude



Vector $\rightarrow$ Magnitude + direct.

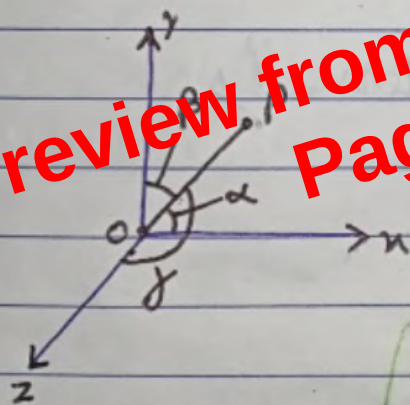


OP = Positional vector

$$|\vec{OP}| = \sqrt{x^2 + y^2 + z^2}$$

magnitude $|\vec{r}| = \sqrt{x^2 + y^2 + z^2}$

Direction Cosines



($\cos \alpha, \cos \beta, \cos \gamma$) are called Direction Cosines (DC)

To find the value of DC

$$x = \cos \alpha = \frac{x}{|\vec{r}|} = l$$

$$y = \cos \beta = \frac{y}{|\vec{r}|} = m$$

$$z = \cos \gamma = \frac{z}{|\vec{r}|} = n$$

$$\vec{A} = x\hat{i} + y\hat{j} + z\hat{k}$$

x, y, z are Direction Ratio.