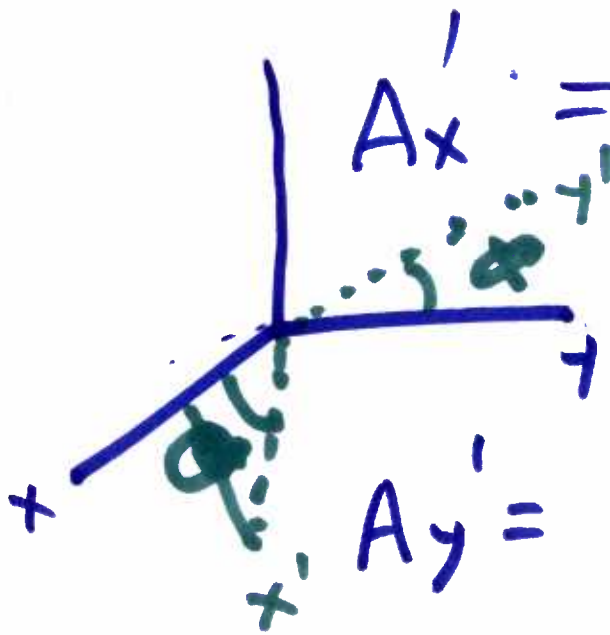
$$\vec{A} = A_x \hat{i} + A_y \hat{j} + A_z \hat{k}$$

$$\vec{A} = A'_x \hat{i}' + A'_y \hat{j}' + A'_z \hat{k}'$$



$$A_x' = A_x \cos\phi + A_y \sin\phi$$

$$A_y' = -A_x \sin\phi + A_y \cos\phi$$

$$\gamma^2 (A_1 + i\beta A_4)(B_1 + i\beta B_4)$$

$$\gamma^2 (A_1 B_1 + i\beta A_1 B_4 + i\beta A_4 B_1 - \beta^2 A_4 B_4$$

$$\gamma^2 = \left(\frac{1}{\sqrt{1-\beta^2}}\right)^2$$

$$\gamma^2 = \frac{1}{(1-\beta^2)}$$