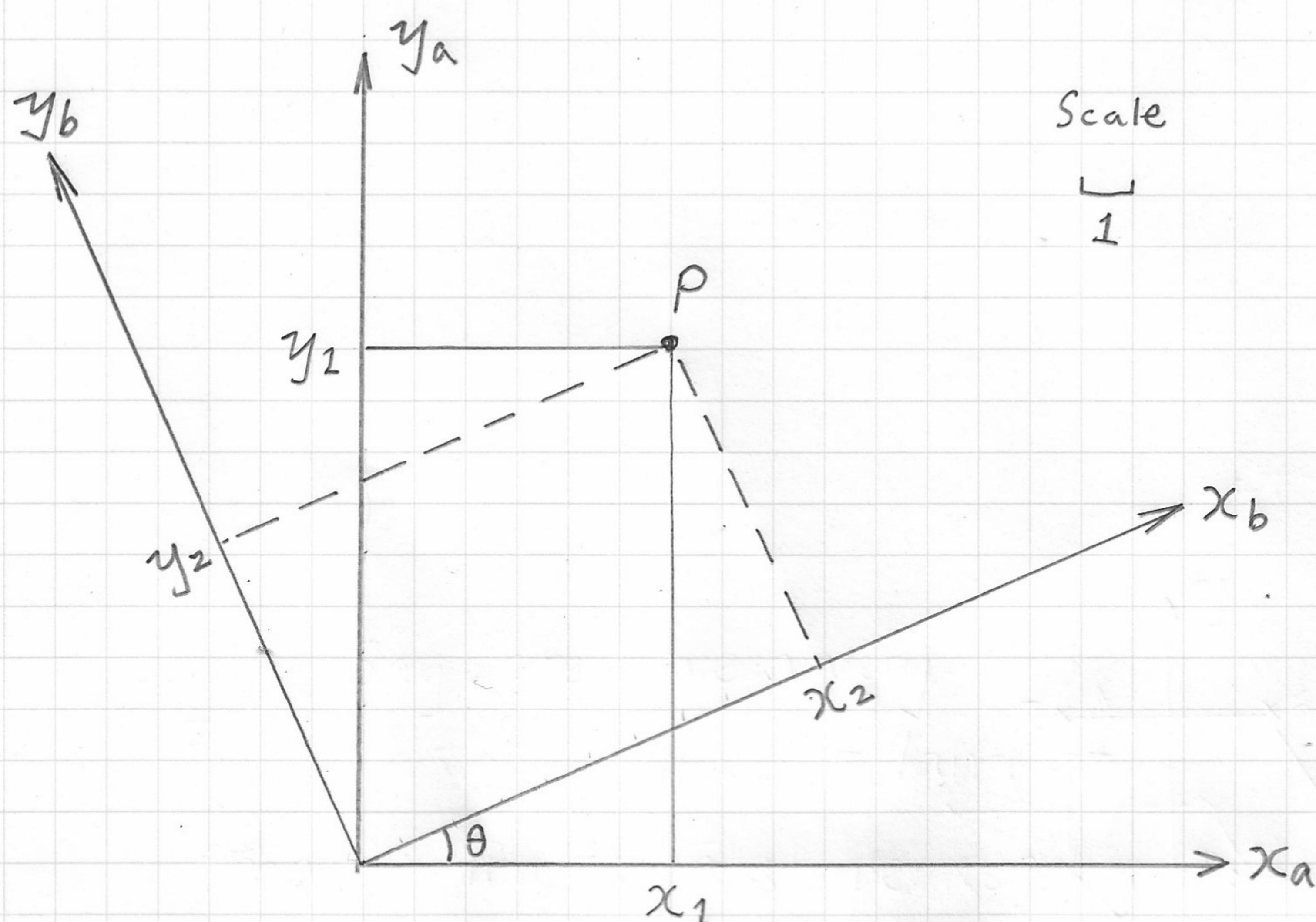


Rotation of a Coordinate System

$$x_2 = x_1 \cdot \cos \theta + y_1 \cdot \sin \theta$$

$$y_2 = x_1 (-\sin \theta) + y_1 \cdot \cos \theta$$

For example, say $\theta = 23.5^\circ$, $x_1 = 6$, and $y_1 = 10$

$$\begin{aligned} \text{then } x_2 &= (6)(\cos 23.5^\circ) + (10)(\sin 23.5^\circ) \\ &= 9.49 \end{aligned}$$

$$\begin{aligned} y_2 &= (6)(-\sin 23.5^\circ) + (10)(\cos 23.5^\circ) \\ &= 6.78 \end{aligned}$$