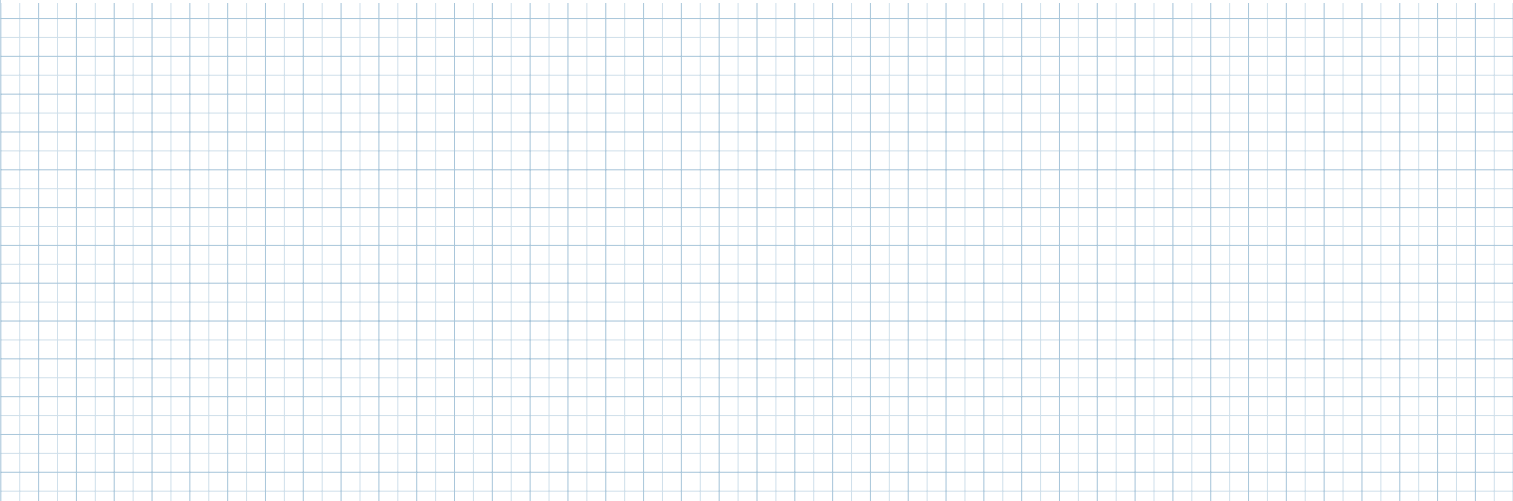


1. Calculate  $\angle pOq$  where  $p = \left(\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2}\right)$  and  $q = \left(-\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2}\right)$ .



2. Determine the fraction of the circle of the angle whose radian measure is  $\frac{\pi}{4}$ .



3. Calculate sine, cosine, and tangent at the following angles  $\theta = 120^\circ$ ,  $\theta = \frac{7\pi}{6}$ .

4. There are angles  $A$  in quadrant I and  $B$  in quadrant III so that  $\cos(A) = \frac{2}{5}$  and  $\sin(B) = -\frac{1}{8}$ . Determine  $\sin(A - B)$  and  $\tan(A - B)$ .

5. Use the half angle formula to determine  $\cos(45^\circ)$  and  $\cos(22.5^\circ)$ .

6. Determine  $R_\theta(1, 2)$ .