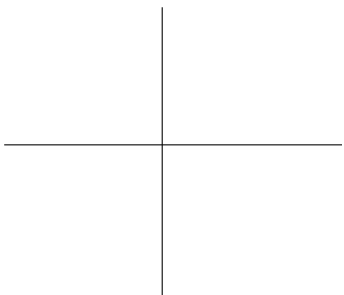
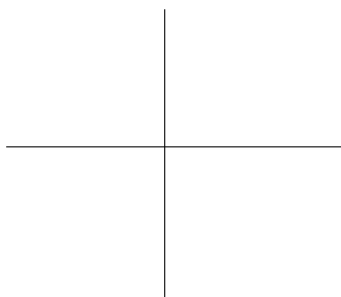
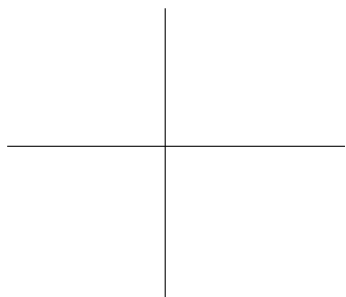


Test Review: Analytic Trigonometry

[1] $\sin \alpha = -\frac{5}{13}, \frac{\pi}{2} < \alpha < \frac{3\pi}{2}$ Find [a] $\cos \alpha$, [b] $\sin 2\alpha$, and [c] $\sin \frac{\alpha}{2}$



[2] $\cos \alpha = \frac{4}{5}, \pi < \alpha < 2\pi$ and $\sin \beta = -\frac{15}{17}, \frac{\pi}{2} < \beta < \frac{3\pi}{2}$



Find the following. [a] $\sin(\alpha + \beta)$ and [b] $\cos(\alpha - \beta)$

[3] Find $\sin \frac{11\pi}{8}$.

[4] Evaluate: [a] $\sin^{-1}\left(\sin \frac{3\pi}{4}\right)$ [b] $\cos^{-1}\left(\cos \frac{4\pi}{3}\right)$ [c] $\tan^{-1}\left(\tan \frac{5\pi}{6}\right)$ [e] $\csc\left(\cos^{-1} \frac{12}{13}\right)$

[5] Evaluate: [a] $\cos\left(\sin^{-1} \frac{3}{5}\right)$ [b] $\tan\left(\cos^{-1} \frac{5}{13}\right)$

[6] Solve. Give all solution in the interval $0 \leq \theta < 2\pi$

[a] $\cos \alpha = \frac{1}{\sqrt{2}}$ [b] $\sin 2\beta = -\frac{1}{2}$ [c] $4\cos^2 \theta = 3$

[d] $2\sin^2 \theta + \sin \theta - 1 = 0$ [e] $2\sin^2 \theta - 5\cos \theta - 4 = 0$

[7] Prove: [a] $\frac{2 \tan \theta}{1 + \tan^2 \theta} = \sin 2\theta$ [b] $(\sin \theta + \cos \theta)^2 = 1 + \sin 2\theta$

[c] $\frac{\sec^2 \theta}{\tan \theta} = \sec \theta \csc \theta$ [d] $\tan \theta + \cot \theta = \sec \theta \csc \theta$