

Quiz 8

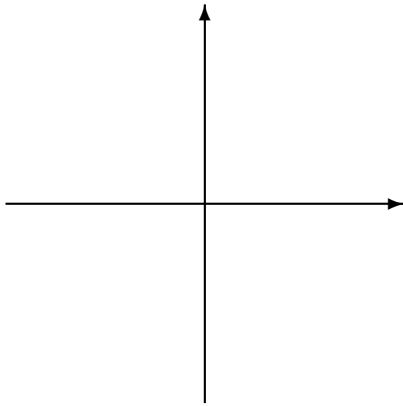
Math 1060-5

Friday, November 30, 2012

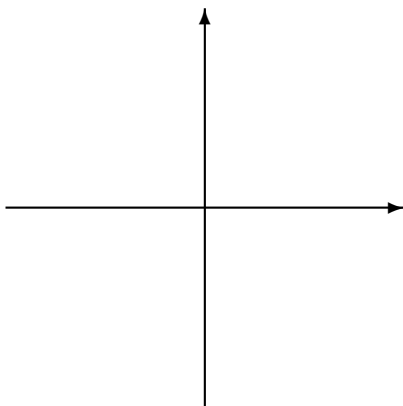
Name: _____

Directions: Show all work for full credit. Clearly indicate all answers. Simplify all mathematical expressions completely. No calculators are allowed.

1. Find the trigonometric form of $z = 2 - 2i$. Give any angles in radians. Also graph the complex number. (13 points)



2. Convert the complex number $z = 3\left(\cos \frac{5\pi}{6} + i \sin \frac{5\pi}{6}\right)$ to standard form. Also graph the complex number. (13 points)



3. Perform each of the following operations and leave your results in trigonometric form with angles between 0 and 2π (or 0° and 360° when degrees are given.). (12 points each)

(a) $\left[\frac{3}{4} \left(\cos \frac{\pi}{3} + i \sin \frac{\pi}{3} \right) \right] \left[4 \left(\cos \frac{3\pi}{4} + i \sin \frac{3\pi}{4} \right) \right]$

(b) $\frac{2(\cos 120^\circ + i \sin 120^\circ)}{4(\cos 40^\circ + i \sin 40^\circ)}$