Math 112 – section ____ ____ NAME: _____
Quiz 6A, spring 2012 20
sections 8.3-8.4 Seat location: _____

Show all necessary steps in each problem. Full credit is based on work shown!

1. Use fundamental identities to establish the following identities.

5pts [Hint: substitute & simplify.]

a. $\frac{1-\sin\theta}{\cos\theta}+\frac{\cos\theta}{1-\sin\theta}=2\sec\theta$

3pts [Hint: substitute & simplify.]

b. $(\tan\theta\cot\theta)-\sin^2\theta=\cos^2\theta$

4pts

2. Use the sum and difference identities to write the expression as the sine, cosine or tangent of a single angle, then give the **exact value** of the function.

a. sin 115° cos 35° + cos 115° sin 35°

b. $\frac{\tan 40^\circ-\tan 70^\circ}{1+\tan 40^\circ\tan 70^\circ}$

8pts

3. Given that $\sin\alpha=\frac{-12}{13}$, *where* $\pi<\alpha<\frac{3\pi}{2}$; and $\cos\beta=\frac{\sqrt{6}}{5}$, *where* $\frac{3\pi}{2}<\beta<2\pi$

Sketch triangles to find the exact value of:

a. $\cos\alpha$

b. $\sin\beta$

Then calculate:

c. $\cos(\alpha+\beta)$