

# PreCalculus Quiz

Your Name:

You **may not** use a calculator for this quiz.

(1-2) Use an addition or subtraction formula to find the **exact** value of the expression.

1.  $\cos \frac{11\pi}{12}$

2.  $\sin 255^\circ$

3. Write the expression in terms of sine only.

$$4 \sin x + 7 \cos x$$

4. Use the addition formula for sine to prove the following identity:

$$\sin 2x = 2 \sin x \cos x$$

5. Evaluate using the Pythagorean identities. Show all work.

Find  $\sin \theta$  and  $\cos \theta$  if  $\tan \theta = 2/3$  and  $\sin \theta > 0$ .

(6-7) Verify (prove) the identity. Show all work and justify steps if necessary.

6.  $\tan(\pi - x) = \tan x$

7.  $\sin(x + y) - \sin(x - y) = 2 \cos x \sin y$