FYI: THESE IDENTITIES WILL BE PROVIDED ON THE GROUP QUIZ **AND** UNIT TEST:

sum and difference identities:	double–angle identities:	half angle identities:
$\sin(x \pm y) = \sin x \cdot \cos y \pm \cos x \cdot \sin y$ $\cos(x \pm y) = \cos x \cdot \cos y \mp \sin x \cdot \sin y$ $\tan(x \pm y) = \dfrac{\tan x \pm \tan y}{1 \mp \tan x \cdot \tan y}$	$\sin 2\theta = 2\sin\theta\cos\theta$ $\cos 2\theta = \cos^2\theta - \sin^2\theta$ $\quad$ *or* $\quad = 1 - 2\sin^2\theta$ $\quad$ *or* $\quad = 2\cos^2\theta - 1$ $\tan 2\theta = \dfrac{2\tan\theta}{1 - \tan^2\theta}$	$\sin\dfrac{x}{2} = \pm\sqrt{\dfrac{1 - \cos x}{2}}$ $\cos\dfrac{x}{2} = \pm\sqrt{\dfrac{1 + \cos x}{2}}$ $\tan\dfrac{x}{2} = \dfrac{1 - \cos x}{\sin x}$ *or* $\dfrac{\sin x}{1 + \cos x}$

USE THIS SHEET TO PRACTICE AND PREPARE! *(no notes, no calculator)*
You will be expected to solve #1-13 on the group quiz and test. This information will then be used to answer additional questions about identities that include simplifying, factoring, solving for θ.

#1-9: Name the function that best completes each statement.

Quotient Identities:

1. $\underline{\quad\quad} = \dfrac{\cos\theta}{\sin\theta}$

2. $\underline{\quad\quad} = \dfrac{\sin\theta}{\cos\theta}$

Reciprocal identities:

3. $\underline{\quad\quad} = \dfrac{1}{\tan\theta}$

4. $\underline{\quad\quad} = \dfrac{1}{\cos\theta}$

5. $\underline{\quad\quad} = \dfrac{1}{\sin\theta}$

6. $\underline{\quad\quad} = \dfrac{1}{\csc\theta}$

7. $\underline{\quad\quad} = \dfrac{1}{\cot\theta}$

8. $\underline{\quad\quad} = \dfrac{1}{\sec\theta}$

Pythagorean identity: 9. $\underline{\quad\quad}$ + $\underline{\quad\quad}$ = 1

#10-11: Derive the other two Pythagorean identities using the main identity from #9.
$\qquad$ Clearly show all steps (write #9 identity, divide all terms by sin θ or cos θ , then simplify.) See notes on bright sheet.

10.	11.

12. Label the coordinates of each highlighted terminal point.
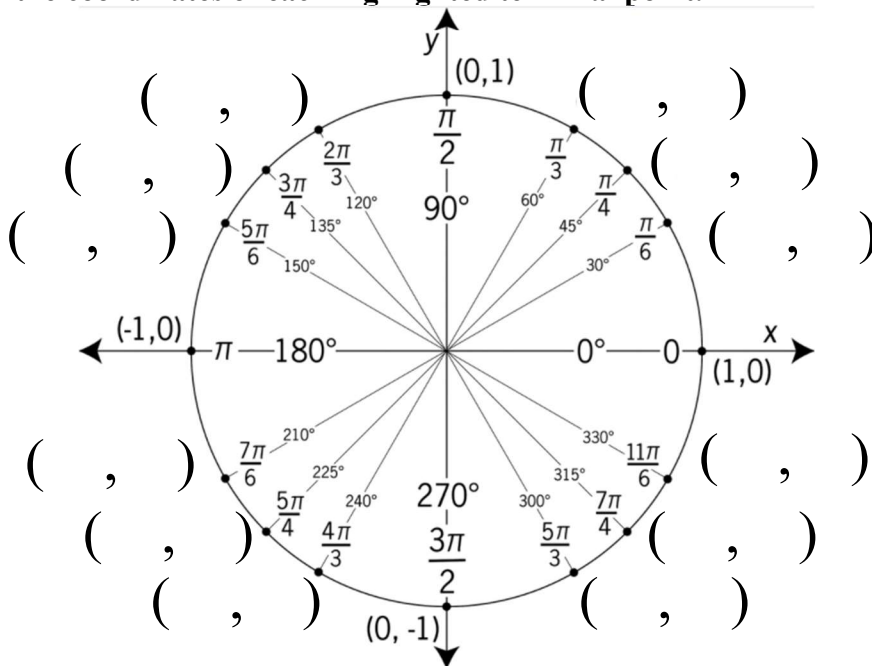
13. Define each function in terms of x and y (based on the unit circle with r = 1.)

$\sin\theta =$

$\cos\theta =$

$\tan\theta =$

$\csc\theta =$

$\sec\theta =$

$\cot\theta =$