

Name Schlansky
Mr. Schlansky

	30	45	60
SIN	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$
COS	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$
TAN	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$

Date _____
Algebra II

1) Sketch angle on grid
2) Find reference angle
Quadrant
Sign
Function
Reference angle

Evaluating Special Angles

3) Evaluate using the table

1. $\sin(30)$

$\frac{1}{2}$

2. $\cos(45)$

$\frac{\sqrt{2}}{2}$

3. $\tan(60)$

$\sqrt{3}$

4. $\cos(150)$

Sketch: Angle 150 in QII, reference angle 30. Signs: S-, F+, R+, T-. Value: $-\cos 30 = -\frac{\sqrt{3}}{2}$.

5. $\sin(120)$

Sketch: Angle 120 in QII, reference angle 60. Signs: S+, F-, R-, T-. Value: $+\sin 60 = \frac{\sqrt{3}}{2}$.

6. $\tan(135)$

Sketch: Angle 135 in QII, reference angle 45. Signs: S-, F+, R-, T-. Value: $-\tan 45 = -1$.

7. $\tan(210)$

Sketch: Angle 210 in QIII, reference angle 30. Signs: S-, F-, R-, T+. Value: $+\tan 30 = \frac{\sqrt{3}}{3}$.

8. $\sin(225)$

Sketch: Angle 225 in QIII, reference angle 45. Signs: S-, F-, R-, T-. Value: $-\sin 45 = -\frac{\sqrt{2}}{2}$.

9. $\cos(240)$

Sketch: Angle 240 in QIII, reference angle 60. Signs: S-, F-, R-, T-. Value: $-\cos 60 = -\frac{1}{2}$.

10. $\cos(330)$

Sketch: Angle 330 in QIV, reference angle 30. Signs: S+, F+, R+, T-. Value: $+\cos 30 = \frac{\sqrt{3}}{2}$.

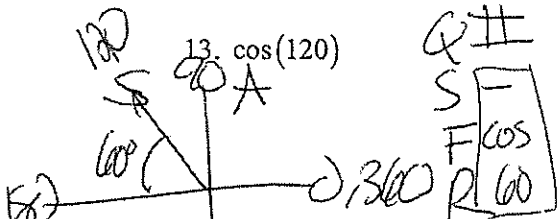
11. $\sin(315)$

Sketch: Angle 315 in QIV, reference angle 45. Signs: S+, F-, R+, T-. Value: $-\sin 45 = -\frac{\sqrt{2}}{2}$.

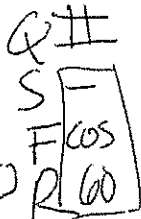
12. $\tan(300)$

Sketch: Angle 300 in QIV, reference angle 60. Signs: S+, F+, R+, T-. Value: $-\tan 60 = -\sqrt{3}$.

$$\tan\left(\frac{5\pi}{4}\right) \cdot \frac{180}{\pi} = 225^\circ$$



$$13. \cos(120)$$

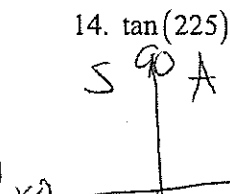


$$T \ 270 \ C \ -\cos 60$$

$$\left(-\frac{1}{2}\right)$$

$$\tan\left(\frac{5\pi}{4}\right) \cdot \frac{180}{\pi} = 150^\circ$$

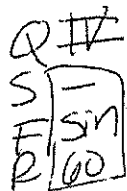
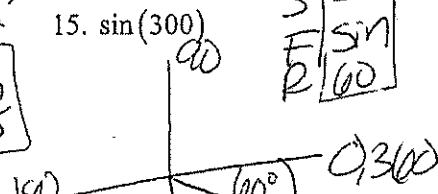
$$14. \tan(225)$$



$$T \ 270 \ C \ \tan 45$$

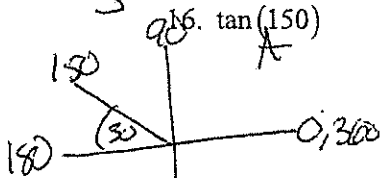
$$\left(\frac{1}{1}\right)$$

$$15. \sin(300)$$

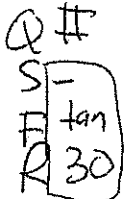


$$T \ 270 \ C \ -\sin 60$$

$$\left(-\frac{\sqrt{3}}{2}\right)$$



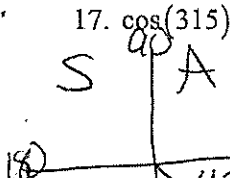
$$16. \tan(150)$$



$$T \ 270 \ C \ -\tan 30$$

$$\left(-\frac{\sqrt{3}}{3}\right)$$

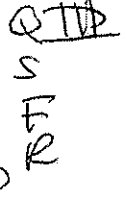
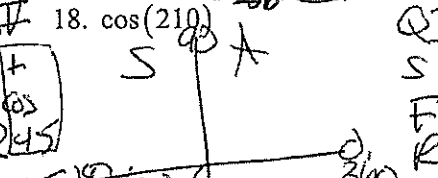
$$17. \cos(315)$$



$$T \ 270 \ C \ \cos 45$$

$$\left(\frac{\sqrt{2}}{2}\right)$$

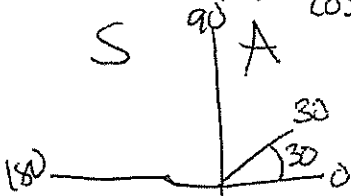
$$18. \cos(210)$$



$$T \ 270 \ C \ -\cos 30$$

$$\left(-\frac{1}{2}\right)$$

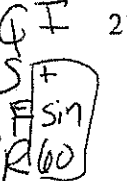
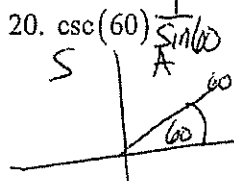
$$19. \sec(30) = \frac{1}{\cos 30}$$



$$T \ 270 \ C \ \sec 30$$

$$\left(\frac{2}{\sqrt{3}}\right)$$

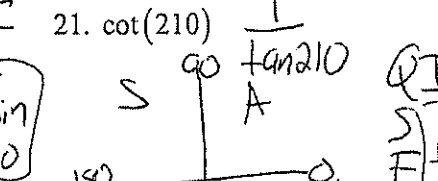
$$20. \csc(60) = \frac{1}{\sin 60}$$



$$T \ 270 \ C \ \csc 60$$

$$\left(\frac{2}{\sqrt{3}}\right)$$

$$21. \cot(210) = \frac{1}{\tan 210}$$

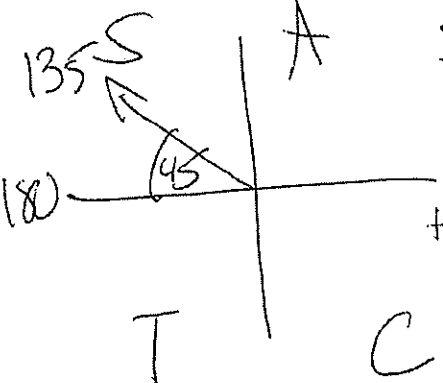


$$T \ 270 \ C \ \cot 30$$

$$\left(\frac{\sqrt{3}}{3}\right)$$

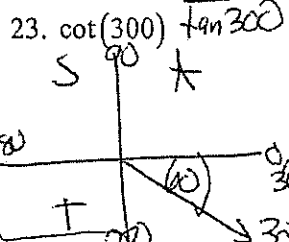
$$+\cos 30 \ \sec 30 \ \left(\frac{2}{\sqrt{3}}\right)$$

$$23. \cot(300) = \frac{1}{\tan 300}$$



$$T \ 270 \ C \ \csc 45$$

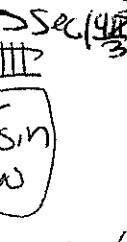
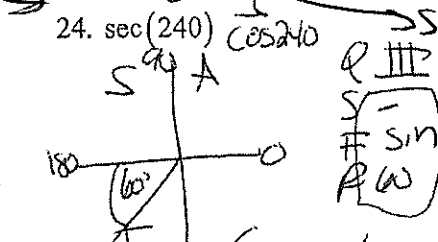
$$\left(\frac{2}{\sqrt{2}}\right)$$



$$T \ 270 \ C \ -\tan 60$$

$$\left(-\sqrt{3}\right)$$

$$24. \sec(240) = \frac{1}{\cos 240}$$



$$T \ 270 \ C \ -\sec 60$$

$$\left(-\frac{2}{\sqrt{3}}\right)$$

$$-\tan 60 = -\sqrt{3} \quad -\cot 60 = \frac{1}{\sqrt{3}}$$

$$\left(-\frac{2}{\sqrt{3}}\right)$$