

Name: Answers

Date: _____

Homework: Evaluating from the Unit Circle (Extra Practice)**Honors PreCalculus**

When possible find the exact value of the following trigonometric expressions. If necessary, round to three decimal places.

$$1. \tan -\frac{\pi}{3} \quad \begin{array}{l} S \\ \cancel{T} \\ \cancel{C} \\ A \end{array}$$

$$\frac{\frac{\sqrt{3}}{2}}{\frac{1}{2}} = \boxed{-\sqrt{3}}$$

$$2. \csc \pi \quad \begin{array}{l} (-1,0) \\ \cancel{S} \\ \cancel{T} \\ \cancel{C} \\ A \end{array}$$

$$\frac{1}{0} = \boxed{\text{und}}$$

$$3. \csc 80^\circ \quad (\text{use calculator})$$

$$\frac{1}{\sin 80} = \boxed{1.015} \quad \text{degree mode}$$

$$4. \cos 60^\circ \quad \begin{array}{l} S \\ \cancel{T} \\ \cancel{C} \\ A \end{array}$$

$$\boxed{\frac{1}{2}}$$

$$5. \csc \frac{7\pi}{4} \quad \begin{array}{l} S \\ \cancel{T} \\ \cancel{C} \\ A \end{array}$$

$$\frac{2}{\sqrt{2}} = \frac{2\sqrt{2}}{2} = \boxed{-\sqrt{2}}$$

$$6. \cot \frac{\pi}{6} \quad \begin{array}{l} S \\ \cancel{T} \\ \cancel{C} \\ A \end{array}$$

$$\frac{\frac{\sqrt{3}}{2}}{\frac{1}{2}} = \boxed{\sqrt{3}}$$

$$7. \tan 3\pi \quad \begin{array}{l} (-1,0) \\ \cancel{S} \\ \cancel{T} \\ \cancel{C} \\ A \end{array}$$

$$= \tan \pi$$

$$\frac{0}{1} = \boxed{0}$$

$$8. \sin \frac{3\pi}{4} \quad \begin{array}{l} S \\ \cancel{T} \\ \cancel{C} \\ A \end{array}$$

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

$$9. \sec -120^\circ \quad \begin{array}{l} S \\ \cancel{T} \\ \cancel{C} \\ A \end{array}$$

$$\sec 240$$

$$\frac{2}{1} = \boxed{-2}$$

$$10. \cos \pi \quad \begin{array}{l} (-1,0) \\ \cancel{S} \\ \cancel{T} \\ \cancel{C} \\ A \end{array}$$

$$\boxed{-1}$$

$$11. \csc \frac{11\pi}{6} \quad \begin{array}{l} S \\ \cancel{T} \\ \cancel{C} \\ A \end{array}$$

$$\frac{2}{1} = \boxed{-2}$$

$$12. \sec -\frac{\pi}{2} \quad \begin{array}{l} (0,-1) \\ \cancel{S} \\ \cancel{T} \\ \cancel{C} \\ A \end{array}$$

$$\frac{1}{0} = \boxed{\text{und}}$$

$$13. \sin \frac{8\pi}{3} \quad \begin{array}{l} S \\ \cancel{T} \\ \cancel{C} \\ A \end{array}$$

$$= \sin \frac{2\pi}{3}$$

$$\boxed{\frac{\sqrt{3}}{2}}$$

$$14. \csc \frac{7\pi}{3} \quad \begin{array}{l} S \\ \cancel{T} \\ \cancel{C} \\ A \end{array}$$

$$= \csc \frac{\pi}{3}$$

$$\frac{2}{\sqrt{3}} = \boxed{\frac{2\sqrt{3}}{3}}$$

$$15. \sin -\frac{7\pi}{2} \quad \begin{array}{l} (0,1) \\ \cancel{S} \\ \cancel{T} \\ \cancel{C} \\ A \end{array}$$

$$= \sin \frac{\pi}{2}$$

$$\boxed{1}$$

$$16. \tan 495^\circ \quad \begin{array}{l} S \\ \cancel{T} \\ \cancel{C} \\ A \end{array}$$

$$= \tan 135$$

$$\frac{\frac{\sqrt{2}}{2}}{\frac{-\sqrt{2}}{2}} = \boxed{-1}$$

$$17. \sec 211^\circ \quad (\text{use calculator})$$

$$\frac{1}{\cos 211} = \boxed{-1.167} \quad \text{degree mode}$$

$$18. \cos \frac{3\pi}{4} \quad \begin{array}{l} S \\ \cancel{T} \\ \cancel{C} \\ A \end{array}$$

$$\boxed{-\frac{\sqrt{2}}{2}}$$

$$19. \tan 120^\circ \quad \begin{array}{l} S \\ \cancel{T} \\ \cancel{C} \\ A \end{array}$$

$$\frac{\frac{\sqrt{3}}{2}}{\frac{-1}{2}} = \boxed{-\sqrt{3}}$$

$$20. \cot \frac{7\pi}{4} \quad \begin{array}{l} S \\ \cancel{T} \\ \cancel{C} \\ A \end{array}$$

$$\frac{\frac{\sqrt{2}}{2}}{\frac{\sqrt{2}}{2}} = \boxed{-1}$$

$$21. \sec \frac{5\pi}{6} \quad \begin{array}{l} S \\ \cancel{T} \\ \cancel{C} \\ A \end{array}$$

$$\frac{2}{\sqrt{3}} = \boxed{\frac{-2\sqrt{3}}{3}}$$