

For each problem, show your work. Except where otherwise instructed, trigonometric expressions must be simplified.

1. **(8 points)** Perform the following tasks related to the trigonometry associated with $t = \frac{-29\pi}{6}$.
 - (a) **(2 points)** What is the reference number of $t = \frac{-29\pi}{6}$?
 - (b) **(1 point)** Which quadrant is the terminal point determined by $t = \frac{-29\pi}{6}$ in?
 - (c) **(1 point)** What are the coordinates of the terminal point determined by $t = \frac{-29\pi}{6}$?
 - (d) **(1 point)** What is $\sin(\frac{-29\pi}{6})$?
 - (e) **(1 point)** What is $\cos(\frac{-29\pi}{6})$?
 - (f) **(2 point)** What is $\csc(\frac{-29\pi}{6})$?
2. **(4 points)** Calculate $\cot \frac{51\pi}{4}$.
3. **(4 points)** Find the amplitude and period of the function $f(x) = -5 \cos(3x)$. Label which is which.
4. **(4 points)** The point P is on the unit circle in the third quadrant, and has x -coordinate $\frac{-1}{5}$. What is its y -coordinate?
5. **(2 point bonus)** A trigonometric function evaluation we did not see in class is that $\cos \frac{2\pi}{5} = \frac{\sqrt{5}-1}{4}$. Using that knowledge, determine the value of $\csc \frac{-33\pi}{5}$ on the back of this page.