

Angles in Standard Position

Find EXACT values for each of the following. Show your work.

1. If $\cot \alpha < 0$ then α lies in quadrant(s) _____.
2. If $\csc \theta > 0$ then θ lies in quadrant(s) _____.
3. If $\cos \theta < 0$ and $\tan \theta > 0$ then θ lies in quadrant(s) _____.
4. If $\tan \beta < 0$ and $\cos \beta > 0$ then β lies in quadrant(s) _____.
5. If $\tan \alpha > 0$ and $\csc \alpha < 0$ then α lies in quadrant(s) _____.
6. Determine $\csc \theta$ if $(4, -6)$ lies on the terminal arm of angle θ in standard position.
7. If the point $P(2, -3)$ is a point on the terminal side of angle θ in standard position, then what is the exact value of $\sec \theta$?
8. If $\tan \theta = -\frac{8}{5}$ and θ terminates in quadrant 2, which point must be on the terminal side of θ ?
9. If $\csc \theta = -\frac{10}{3}$ and angle θ terminates in quadrant 4, which point must be on the terminal side of θ ?
10. If $\csc \theta = -\frac{25}{7}$ and $\tan \theta < 0$, determine a ratio of $\cos \theta$.
11. If $\sec \theta = \frac{1}{t}$, $t \neq 0$, then what is the value of $\cot \theta$?
12. Determine the value of $\sec \theta$ if $\tan \theta = -a$ and $a > 0$ and $\cos \theta < 0$.