Unit 12 Review

**Sketch** each of the following angles and find their reference angle.

1. 310°
2. −225°
3. \(\frac{11\pi}{3}\)

Ref angle: Ref angle: Ref angle:

Use the Unit Circle to find the trigonometric values at the given angle.

4. \(\sin 30°\)
5. \(\csc 120°\)
6. \(\cot 570°\)
7. \(\sec 45°\)

8. \(\sec \frac{-\pi}{2}\)
9. \(\tan \frac{3\pi}{4}\)
10. \(\cot 0\)
11. \(\sin \frac{-5\pi}{3}\)

Use the Unit Circle to find all the angles (where \(0 \leq \theta < 360\)) that satisfy the given equation.

12. \(\sin \theta = -\frac{1}{2}\)
13. \(\csc \theta = -\sqrt{2}\)
14. \(\cot \theta = \frac{\sqrt{3}}{3}\)
15. \(\tan \theta = \text{undefined}\)

Find the Quadrant where the terminal side of an angle lies that satisfies each of the following.

16. \(\sin \theta > 0 \text{ and } \sec \theta > 0\)
17. \(\csc \theta < 0 \text{ and } \cot \theta > 0\)

18. Convert \(110°\) to radians. Express your answer as an exact multiple of \(\pi\).

19. Convert \(\frac{8}{3}\pi\) radians to degrees.
Find all 6 trigonometric values for \( \theta \) given the triangle.

20. 

21. Given that \( \sin \theta = \frac{4}{7} \) and \( \cos \theta < 0 \), find the trig value at \( \theta \) for the remaining 5 trig functions.

22. Given that the terminal side of an angle passes through the point (3,-2) find all 6 trig values for that angle.

Find all the missing angles and sides. Round to 2 decimal places.

23. 

24.