

Algebra IIb 12-3 Day 1 Solutions

Oral Exercises

State the measure of the reference angle α for each angle θ .

1. 45°

2. 60°

3. 30°

4. 45°

14. $\sin \theta = -\frac{4}{5}, \cos \theta = \frac{3}{5},$
 $\tan \theta = -\frac{4}{3}, \csc \theta = -\frac{5}{4},$
 $\sec \theta = \frac{5}{3}, \cot \theta = -\frac{3}{4}$

16. $\sin \theta = -\frac{\sqrt{2}}{2}, \cos \theta = -\frac{1}{\sqrt{2}},$
 $\tan \theta = 1, \csc \theta = \sqrt{2},$
 $\sec \theta = -\sqrt{2}, \cot \theta = 1$

20. $\sin \theta = \frac{\sqrt{5}}{5}, \cos \theta = -\frac{2\sqrt{5}}{5},$
 $\tan \theta = -\frac{1}{2}, \csc \theta = \sqrt{5},$
 $\sec \theta = -\frac{\sqrt{5}}{2}, \cot \theta = -2$

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

$\frac{1}{\sqrt{5}}$

In Exercises 21–28, name the quadrant of θ . (Use the chart on page 562.)

21. $\sin \theta < 0, \cos \theta > 0$ **IV**

22. $\sin \theta < 0, \cos \theta < 0$ **III**

23. $\sin \theta > 0, \cos \theta > 0$ **I**

24. $\sin \theta > 0, \cos \theta < 0$ **II**

25. $\sec \theta > 0, \tan \theta < 0$ **IV**

26. $\csc \theta < 0, \cos \theta < 0$ **III**

27. $\cos \theta < 0, 180^\circ < \theta < 360^\circ$ **III**

28. $\tan \theta > 0, 90^\circ < \theta < 270^\circ$ **III**

29. If $\cos \theta = \frac{1}{4}, \sec \theta = \underline{4}$

30. If $\sin \theta = -\frac{3}{5}, \csc \theta = \underline{-\frac{5}{3}}$

31. If $\cot \theta = -3, \tan \theta = \underline{-\frac{1}{3}}$

32. If $\sec \theta = 1.5, \cos \theta = \underline{\frac{2}{3}}$