

1. The perimeter of a square is 36. What is the exact length of the diagonal?
2. What is the exact length of a side of an equilateral triangle whose altitude is 18?

For each angle, sketch in standard form and find two coterminal angles.

3. 120°
4. $\frac{11\pi}{6}$
5. $-\frac{7\pi}{4}$

Give the complement and supplement for each of the following angle:

6. $\frac{\pi}{6}$
7. $\frac{2\pi}{5}$

Given the quadrant and a trig value, find the value of the indicated function.

8. Quadrant II, $\cos\theta = -\frac{\sqrt{3}}{2}$, find $\tan\theta$
9. Quadrant III, $\sin\theta = -\frac{\sqrt{2}}{2}$, find $\sec\theta$

Convert to radians. Give answer in terms of pi.

10. 15°
11. 125°
12. 315°

Convert to degrees. Both decimal and DMS form.

13. $-\frac{7\pi}{12}$

14. $\frac{\pi}{5}$

15. $\frac{11\pi}{6}$

16. Find the length of the arc on a circle with a radius of 10 feet and a central angle of 50° .

Find the exact value of each of the following:

17. $\sin 120^\circ$

18. $\cos \frac{7\pi}{6}$

19. $\tan \frac{\pi}{3}$

20. $\csc \frac{5\pi}{4}$

21. $\cot(-150^\circ)$

22. $\sec \frac{3\pi}{2}$