

PROBLEM SET 13-3
(Radian Measure)

Write each measure in radians. Express the answer in terms of π .

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|-----------------|----------------|----------------|
| 1. -300° | 2. 150° | 3. -90° |
| 4. -60° | 5. 160° | 6. 20° |

Write each measure in degrees. Round your answer to the nearest degree, if necessary.

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|-------------------|-------------------------------|------------------------------|
| 7. 3π radians | 8. $\frac{11\pi}{10}$ radians | 9. $-\frac{2\pi}{3}$ radians |
| 10. -3 radians | 11. 1.57 radians | 12. 4.71 radians |

In which quadrant or on which axis does the terminal side of each an angle lie?

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|----------------------|-----------------------|----------------------|
| 13. $\frac{4\pi}{3}$ | 14. $-\frac{5\pi}{4}$ | 15. $\frac{9\pi}{2}$ |
| 16. $\frac{5\pi}{6}$ | 17. $-\pi$ | 18. $\frac{6\pi}{5}$ |

The given angle θ is in standard position. Find the radian measure of the angle that results after the given number of revolutions from the terminal side of θ .

19. $\theta = \frac{\pi}{2}$; 1 clockwise revolution
20. $\theta = \frac{\pi}{3}$; 2 clockwise revolutions
21. $\theta = -\frac{2\pi}{3}$; - 1 counterclockwise revolution
22. $\theta = \frac{5\pi}{6}$; 2.5 counterclockwise revolutions

Find the missing radian measures on the Unit Circle