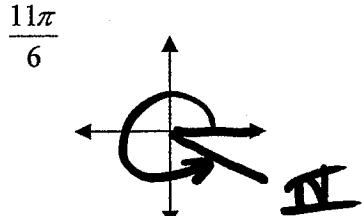
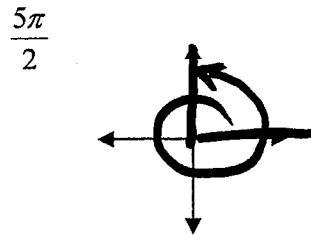
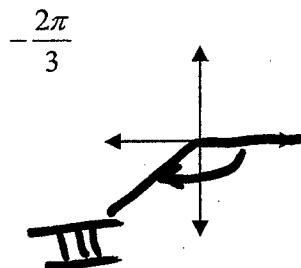
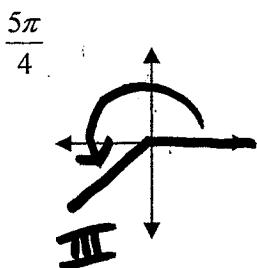


Radian Measure Worksheet

ANSWER

- 1 Sketch each angle in standard position and determine what quadrant it lies in.



- 2 Write each angle in exact radian measure:

a. 30° $\frac{\pi}{6}$

c. 150° $\frac{5\pi}{6}$

b. -20° $-\frac{\pi}{9}$

d. -240° $-\frac{4\pi}{3}$

- 3 Write each angle in degree measure:

a. $\frac{3\pi}{2}$ 270°

b. $\frac{7\pi}{6}$ 210°

c. $-\frac{7\pi}{12}$ -105°

d. $\frac{\pi}{9}$ 20°

e. $\frac{7\pi}{3}$ 420°

f. $-\frac{11\pi}{30}$ -66°

- 4 Find one positive and one negative angle that are coterminal with an angle having the following measures.

a. $-\frac{11\pi}{6}$

b. -215°

c. $-\frac{4\pi}{3}$

d. -170°

e. $-\frac{32\pi}{15}$

a. $\frac{\pi}{6}$ $13\frac{\pi}{6}$

b. 145° 505°

c. $\frac{2\pi}{3}$ $3\frac{2\pi}{3}$

d. 190° 550°

e. $-\frac{2\pi}{15}$ $28\frac{2\pi}{15}$

- 5 Determine the quadrant where the following angle lies.

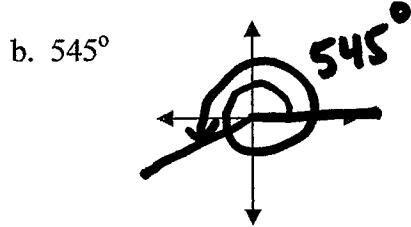
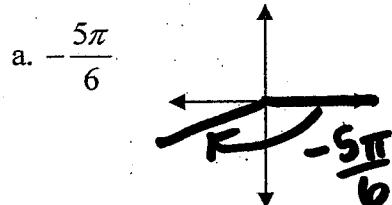
a. $\frac{3\pi}{4}$ II

b. -1 rad IV

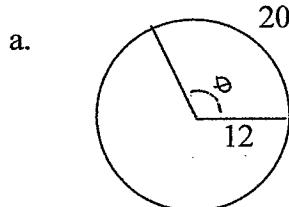
c. 4.5 rads III

d. -125° III

- 6 Sketch the angle in standard position.



- 7 Find the angle in radians.



$$\theta = \frac{\text{arc length}}{\text{radius}}$$

$$= \frac{20}{12}$$

$$= 1.67 \text{ rads}$$

b. $r = 14 \text{ feet}$ and $s = 8 \text{ feet}$
 $\theta = \frac{\text{arc length}}{\text{radius}}$

$$\theta = \frac{\text{arc length}}{\text{radius}}$$

$$= \frac{8}{14}$$

$$= 0.57 \text{ rads.}$$

- 8 Find the arc length given: $r = 12 \text{ mm}$ and $\theta = 330^\circ$

$330^\circ = 5.76 \text{ rads}$

$$\theta = \frac{\text{arc length}}{\text{radius}}$$

$$5.76 = \frac{a}{12} \quad \therefore a = 69.12 \text{ mm}$$