



8. If  $\tan \theta = -\sqrt{3}$  and  $\sin \theta < 0$ , find the exact value of each of the following:

- a.  $\sin \theta$
- b.  $\cos \theta$
- c.  $\csc \theta$
- d.  $\sec \theta$
- e.  $\cot \theta$

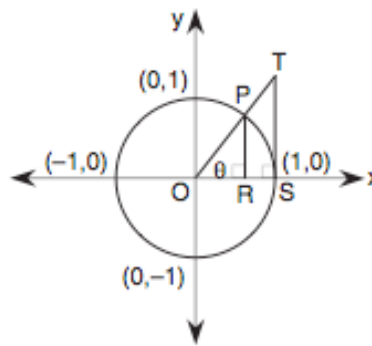
8.

9. a. Convert to radians and express in simplest form:  $315^\circ$

b. Convert to degrees and express in simplest form:  $\frac{11\pi}{9}$

9.

10. In the accompanying diagram,  $\overline{TS}$  is tangent to unit circle  $O$  at  $S$ ,  $\overline{PR} \perp \overline{OS}$ , and  $\overline{TS} \perp \overline{OS}$ . Which line segment represents  $\sin \theta$ ?



10.

11. If  $\cos 3x^\circ = \sin 60^\circ$ , then  $x$  may equal

- (1) 10
- (2) 20
- (3) 30
- (4) 40

12. If  $f(x) = x^{-\frac{2}{3}}$ , find  $f\left(\frac{16}{9}\right)$ .

11.

13. Expressed as a function of a positive acute angle,  $\cot(-120^\circ)$  is equivalent to

- (1)  $-\tan 60^\circ$
- (2)  $\cot 60^\circ$
- (3)  $-\cot 30^\circ$
- (4)  $\cot 30^\circ$

14. Express each as a function of a positive acute angle:

- a.  $\cot(-459^\circ)$
- b.  $\sec(935^\circ)$
- c.  $\tan(-475^\circ)$

13.

14.