



7. Through how many radians does the minute hand of a clock turn in 24 minutes?

(1)  $\frac{\pi}{5}$

(3)  $\frac{3\pi}{5}$

(2)  $\frac{2\pi}{5}$

(4)  $\frac{4\pi}{5}$

8. 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. Express as a function of a positive acute angle:

a.  $\cot(-459^\circ)$

b.  $\sec 935^\circ$

c.  $\sin \frac{7\pi}{10}$

10. Express as a function of a positive acute angle less than  $45^\circ$ :

a.  $\sin 245^\circ$

b.  $\sec 98^\circ$

c.  $\cos 355^\circ$

11. Find the exact value:

a.  $\sin 315^\circ$

b.  $\csc 150^\circ$

c.  $\cot 180^\circ$

12. Express as a single fraction in simplest radical form:

$$\sin \frac{11\pi}{6} - \cot \left( -\frac{5\pi}{3} \right) + \cos \frac{7\pi}{4}$$