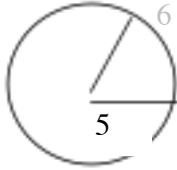
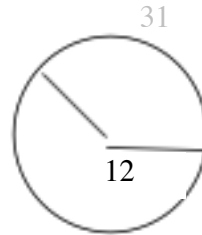


Find each angle in radians.

1.



2.



Find the radian measure of the central angle of a circle of the given radius that intercepts an arc of the given length.

3. radius=16 ft, arc length=40 ft

4. radius=80 km, arc length=160 km

Find the length of the arc on a circle of the given radius intercepted by the given central angle.

5. radius=9 ft, central angle= 60°

6. radius=40 cm, central angle= $\frac{3\pi}{4}$

Find the distance between the cities. Assume that the earth is a sphere of radius 4000 miles and the cities are on the same meridian.

7. San Francisco, CA $37^\circ 46' 30''$ N
Seattle, WA $47^\circ 36' 32''$ N

8. Johannesburg, South Africa $26^\circ 10' S$
Jerusalem, Israel $31^\circ 47' N$

9. Assuming that the earth is a sphere of radius 6378 km, what is the difference in latitude of two cities, one of which is 800 km due north of the other?

