Answers to 9.4 Radians, Arc Length, and Sector Area

1) One radian is the angle created for the portion of the circumference that is equal to the radius.

3) $\frac{13\pi}{18}$ 5) $\frac{11\pi}{9}$ 7) $60°$ 9) $120°$

11) -1 13) $\sqrt{3}$ 15) $-\sqrt{3}$

17) Arc length: The portion of the circle * the total circumeference
Sector area: The portion of the circle * the total area

19) 21π m 21) $\frac{9\pi}{2}$ cm 23) $\frac{49\pi}{6}$ m² 25) $\frac{125\pi}{8}$ km²

27) b. 1 hour: 11047.93 km
3 hours: 33143.80 km
2.5 hours: 27619.84 km
25 hours: 276,198.35 km

c. About 18.1 hours