

1. (9 each) Find the missing quantity, if s is the arc length with radius r and central angle θ .

a) $s = \underline{\hspace{2cm}}$, $r = 8$, $\theta = 1.2$

b) $s = \underline{\hspace{2cm}}$, $r = 45$; $\theta = 95^\circ$

c) $s = \underline{\hspace{2cm}}$, $r = 2.54$ cm; $\theta = \frac{5\pi}{6}$

d) $s = 20$ mi, $r = 5.0$ mi, $\theta = \underline{\hspace{1cm}}^\circ = \underline{\hspace{1cm}}$ rad

2. (9 each) Find the missing quantity, if A is the area of the sector of a circle with radius r and central angle θ .

a) $A = \underline{\hspace{2cm}}$, $r = 8$ mm, $\theta = 1.2$

b) $A = 25$ ft², $r = \underline{\hspace{2cm}}$, $\theta = 95^\circ$

c) $A = \underline{\hspace{2cm}}$, $r = 2.54$ cm, $\theta = \frac{5\pi}{6}$

d) $A = 49.1$ mi², $r = 5.0$ mi, $\theta = \underline{\hspace{2cm}}$

3. (9 each) The sweep second hand of a watch is 21.0 mm long.

a) What is the linear velocity of the tip? (mm/sec and cm/min to one decimal place)

b) What is the distance travelled by the outer tip of the second hand in 42 seconds?

c) What is the area of the sector covered by the second hand in 42 seconds?

d) What is the distance travelled by the outer tip during a 50 minute class?