

Section 7.2 Quiz

$$1) \text{ Arc length} = 2\pi r \left(\frac{\theta}{360} \right)$$

$$= \frac{2 \times 22}{7} \times \frac{45}{360}$$

$$= 3.14 \text{ cm}$$

$$\text{Area of Sector} = \frac{\theta}{360} \times \pi r^2$$

$$\frac{45}{360} \times \frac{22}{7} \times 16$$

$$= 6.29 \text{ cm}^2$$

$$2) \text{ Arc length} = S = r\theta$$

$$S = 6.7 \times 3$$

$$= 20.1 \text{ in.}$$

$$A = \frac{1}{2} r^2 \theta$$

$$\frac{1}{2} \times 6.7^2 \times 3$$

$$= 134.67 \text{ in}^2$$

$$3 \quad A = \frac{1}{2} r^2 \theta$$

$$25 \text{ cm}^2 = \frac{1}{2} \times r^2 \times 1.2$$

$$\frac{50 \text{ cm}^2}{1.2} = \frac{1.2 r^2}{1.2}$$

$$r^2 = 41.67$$

$$r = 6.5 \text{ cm}$$

$$\text{Arc length} = r\theta$$

$$s = 6.5 \times 1.2$$

$$s = 7.8 \text{ cm}$$

$$4 \quad \text{Arc length} = s = r\theta$$

$$\text{radius} = 1 \text{ km}$$

$$s = 1 \times 0.05$$

$$= 0.05 \text{ km}$$

$$5 \quad D = 0.0087 \times 4 \times 10^5 \text{ km}$$

$$D = 3480 \text{ km}$$

$$6 \quad \frac{360}{8} = 45^\circ$$

Arc length of each piece

$$2 \times \frac{2\pi}{4} \times 10 \times \frac{45}{360}$$

$$= 7.86 \text{ inch.}$$