

QUIZ 7

201-943-DW Section 1

Applied Mathematics for Electronics Engineering Technology

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Question 1. (6 marks)

Convert the following angles to radian measurement:

(a) $320^\circ = 320^\circ \cdot \frac{\pi}{180} = \boxed{\frac{16\pi}{9}} \approx 5.59 \text{ rad}$

(b) $20^\circ = 20^\circ \cdot \frac{\pi}{180} = \boxed{\frac{\pi}{9}} \approx 0.35 \text{ rad}$

(c) $120^\circ = 120^\circ \cdot \frac{\pi}{180} = \boxed{\frac{2\pi}{3}} \approx 2.09 \text{ rad}$

Convert the following angles to degree measurement:

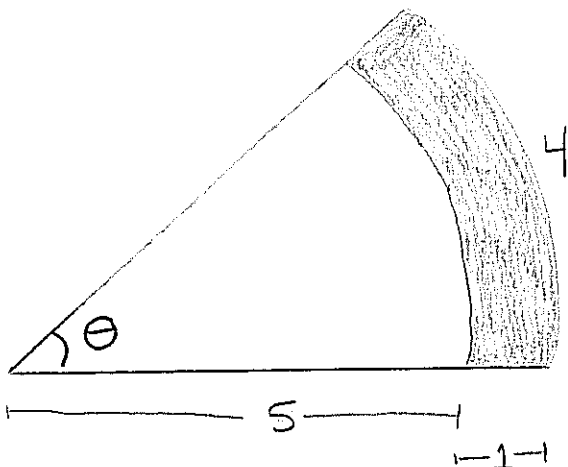
(a) $2\pi = 2\pi \cdot \frac{180}{\pi} = \boxed{360^\circ}$

(b) $\frac{3\pi}{4} = \frac{3\pi}{4} \cdot \frac{180}{\pi} = \boxed{135^\circ}$

(c) $\frac{7\pi}{8} = \frac{7\pi}{8} \cdot \frac{180}{\pi} = \boxed{157.5^\circ}$

Question 2. (4 marks)

Find the area of the shaded portion in the following diagram:



$$\theta = \frac{s}{r} = \frac{4}{6} = \frac{2}{3}$$

Area Large slice :

$$A_L = \frac{\theta}{2} r^2$$

$$= \frac{2/3}{2} (6)^2 = \frac{36}{3}$$

Area Small slice :

$$A_S = \frac{\theta}{2} r^2 = \frac{2/3}{2} (5)^2 = \frac{25}{3}$$

$$A_{\text{AREA}} = \frac{36}{3} - \frac{25}{3} = \boxed{11\frac{1}{3} \text{ UNITS}^2}$$