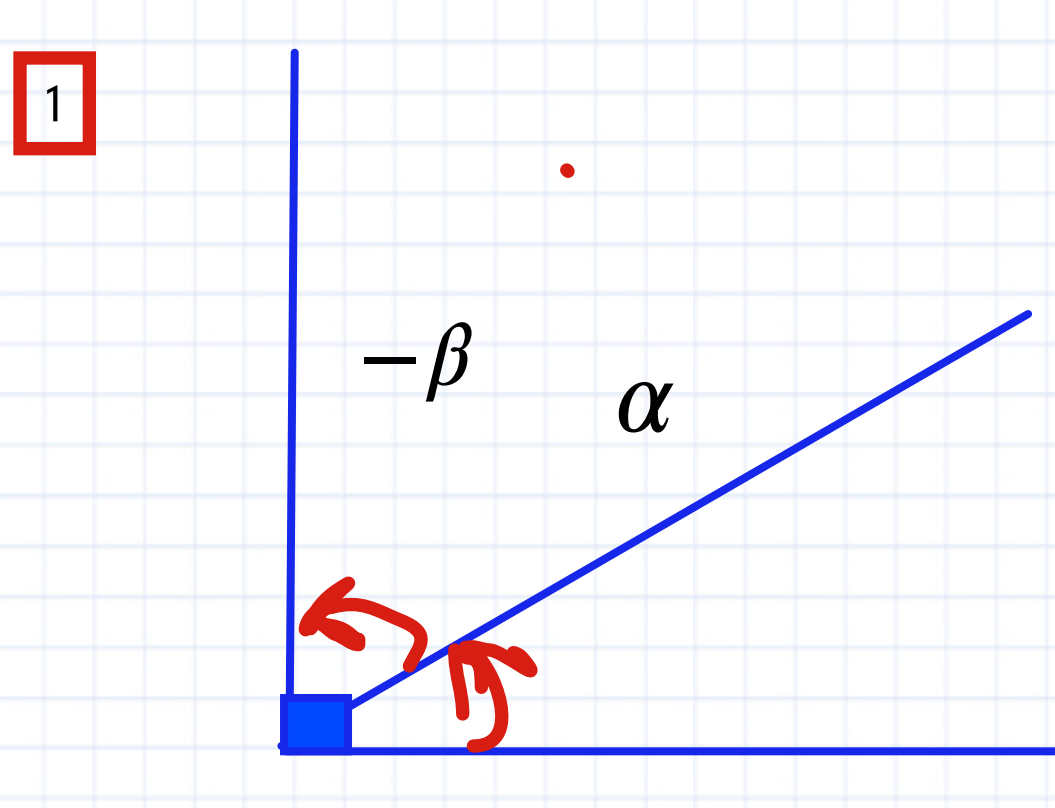
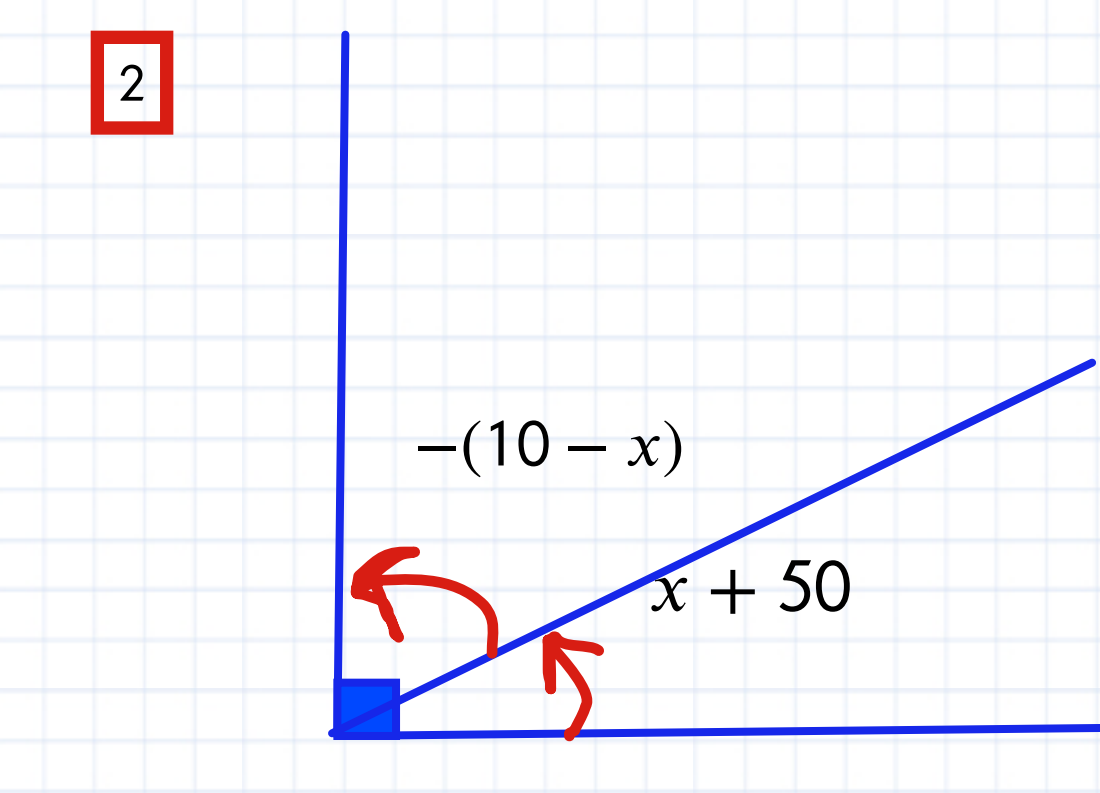


ÁNGULO TRIGONOMETRICO



$$-\beta + \alpha = 90$$

$$\alpha - \beta = 90^\circ$$



$$-(10-x) + x + 50 = 90$$

$$-10 + x + x + 50 = 90$$

$$40 + 2x = 90$$

$$2x = 90 - 40$$

$$x = \frac{50}{2}$$

$$x = 25^\circ$$

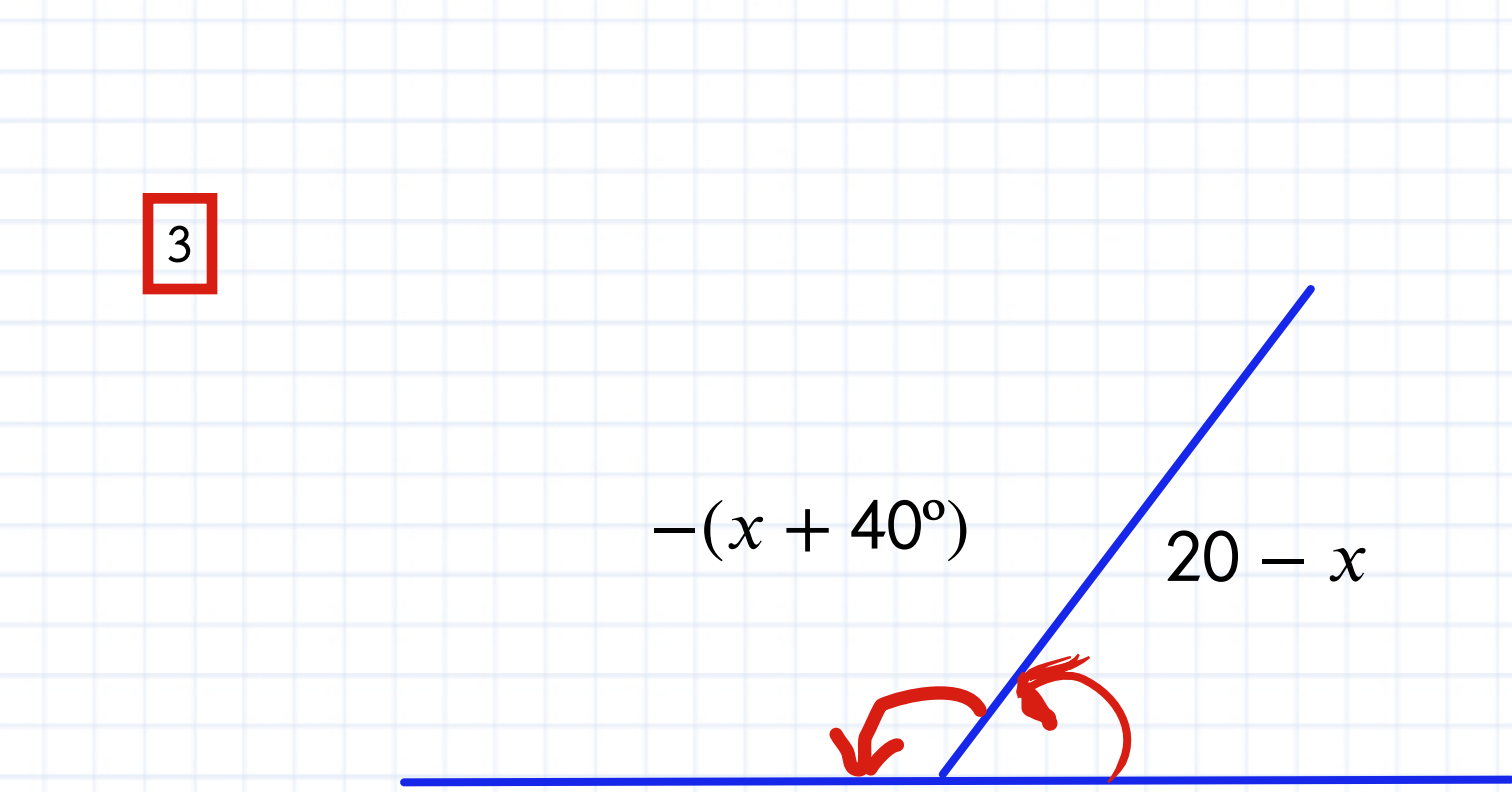
$$x + 50 - (10 - x) = 90$$

$$x + 50 - 10 + x = 90$$

$$2x + 40 = 90$$

$$2x = 90 - 40$$

$$x = \frac{50}{2} = 25^\circ$$



$$20 - x - (x + 40) = 180^\circ$$

$$20 - x - x - 40 = 180$$

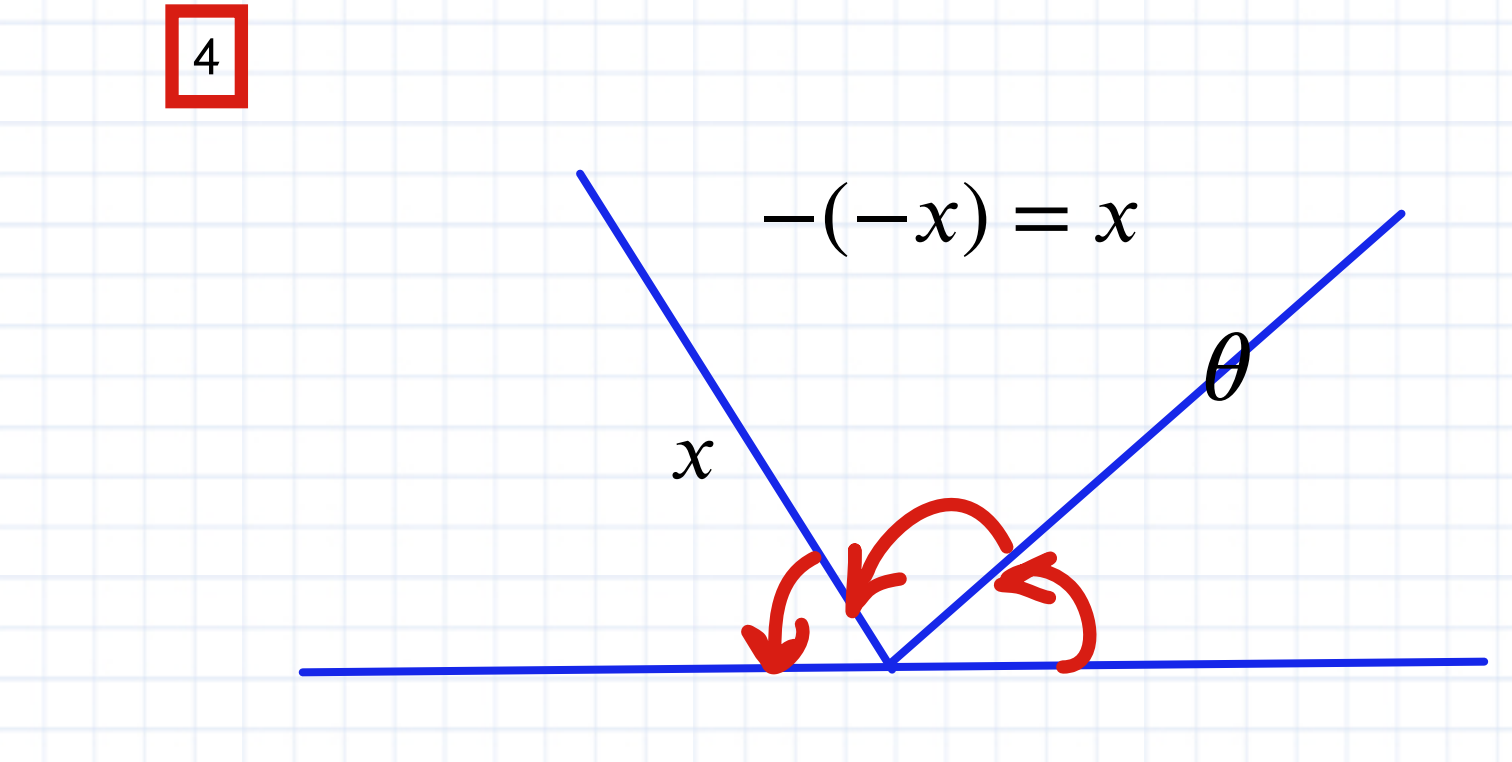
$$-20 - 2x = 180$$

$$-20 - 180 = 2x$$

$$-200 = 2x$$

$$x = \frac{-200}{2}$$

$$x = -100$$



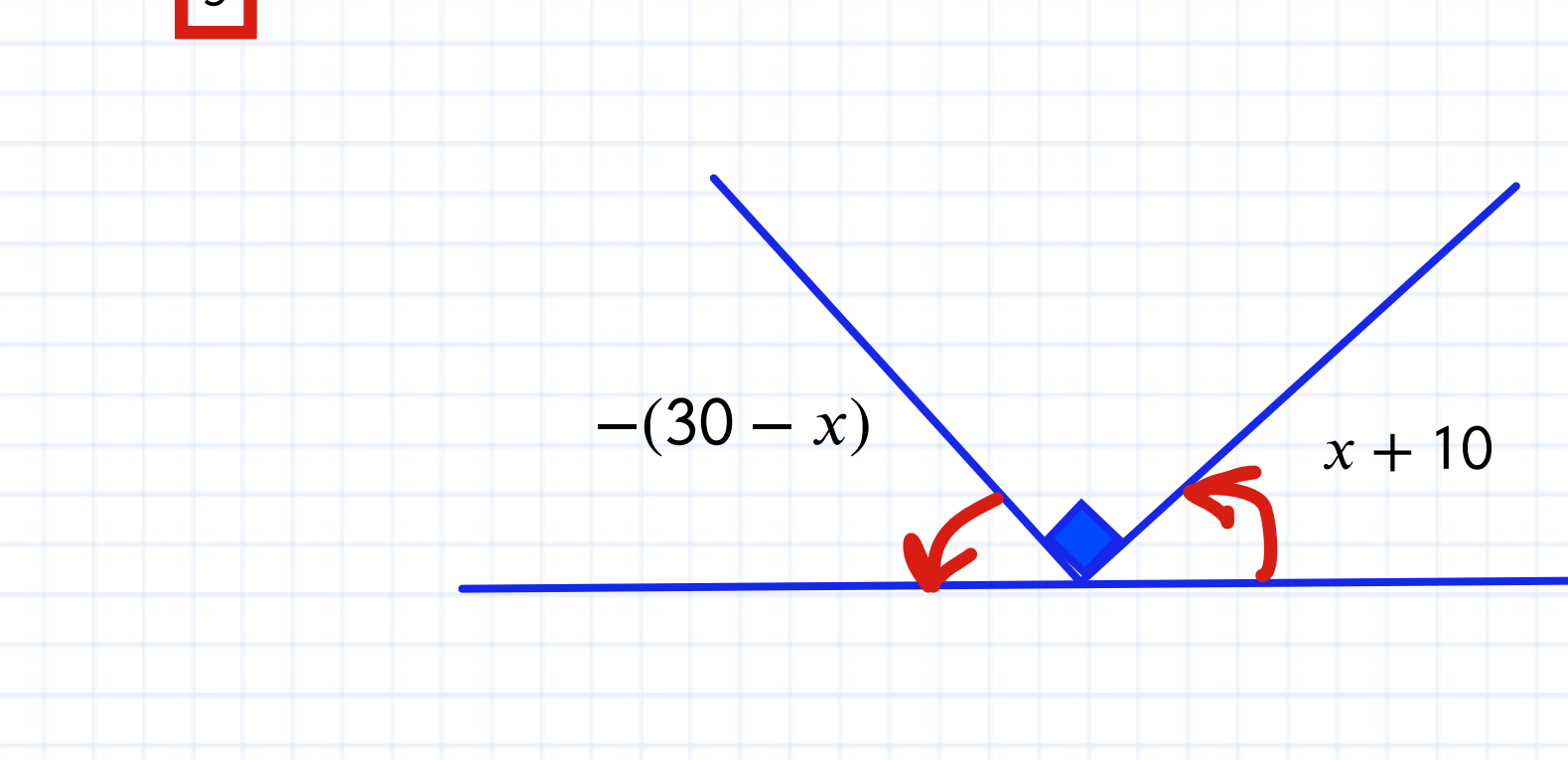
$$x + x + \theta = 180$$

$$2x = 180 - \theta$$

$$x = \frac{180 - \theta}{2}$$

$$x = \frac{180 - \theta}{2}$$

$$x = 90 - \frac{\theta}{2}$$



$$x + 10 - (30 - x) + 90 = 180$$

$$x + 100 - 30 + x = 180$$

$$2x + 70 = 180$$

$$2x = 180 - 70$$

$$x = \frac{110}{2}$$

$$x = 55^\circ$$

SISTEMA DE MEDIDAS ANGULARES

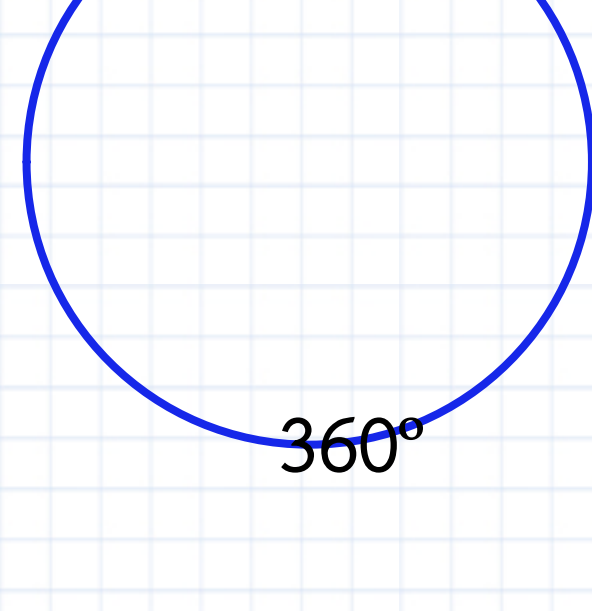
1. SISTEMA SEXAGESIMAL (S)

$$1V = 360^\circ$$

$$1^\circ = 60' \text{ minutos}$$

$$1' = 60'' \text{ segundos}$$

$$1^\circ = 3,600'' \text{ segundos}$$



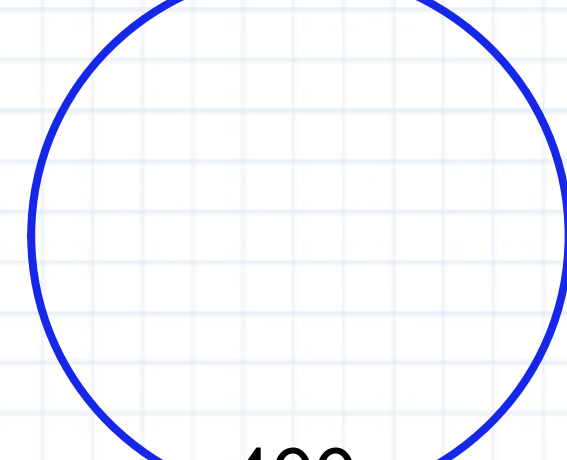
2. SISTEMA CENTESIMAL (C)

$$1V = 400g$$

$$1g = 100m \text{ minutos}$$

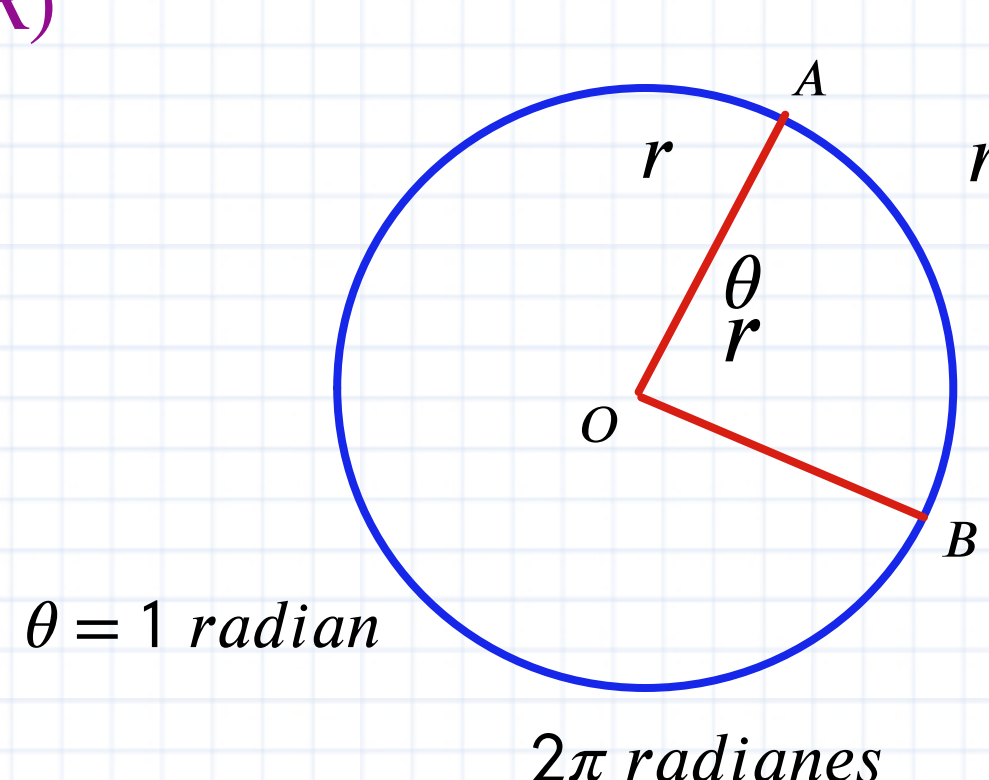
$$1m = 100s \text{ segundos}$$

$$1g = 10,000s \text{ segundos}$$



3. SISTEMA RADIAL (R)

$$1V = 2\pi \text{ radianes}$$



RELACIONES ENTRE LOS SISTEMAS DE MEDIDAS ANGULARES

$$\frac{S}{360} = \frac{C}{400} = \frac{R}{2\pi}$$

$$\frac{S}{180} = \frac{C}{200} = \frac{R}{\pi}$$

$$\frac{S}{180} = \frac{C}{200}$$

$$\frac{S}{9} = \frac{C}{10}$$

$$\frac{S}{9} = \frac{C}{10} = K$$

$$\frac{S}{9} = K \Rightarrow S = 9K$$

$$\frac{C}{10} = K \Rightarrow C = 10K$$

$$\frac{C}{200} = \frac{R}{\pi} \Rightarrow C = \frac{200R}{\pi}$$

$$\frac{S}{180} = \frac{R}{\pi} \Rightarrow S = \frac{180R}{\pi}$$

$$10K = \frac{200R}{\pi}$$

$$K = \frac{20R}{\pi}$$

Reducir : $E = 2S - C$

$$C - S$$

$$E = \frac{2(9K) - 10K}{10K - 9K}$$

$$E = \frac{18K - 10K}{K} = \frac{8K}{K} = 8$$

Expresar en Radianes : $3\pi S - 2\pi C = 7$

$$3\pi \left(\frac{180R}{\pi} \right) - 2\pi \left(\frac{200R}{\pi} \right) = 7$$

$$540R - 400R = 7$$

$$140R = 7$$

$$R = \frac{7}{140}$$

$$R = \frac{1}{20} \text{ rad.}$$

Expresar en radianes si se cumple : $C - S = 4$

$$\frac{200R}{\pi} - \frac{180R}{\pi} = 4$$

$$\frac{20R}{\pi} = 4$$

$$20R = 4\pi$$

$$R = \frac{4\pi}{20}$$

$$R = \frac{\pi}{5} \text{ rad}$$