

1

Determine un ángulo en radianes si se cumple

$$\begin{aligned} \left(\frac{S}{9K} - 1\right) \left(\frac{C}{10K} + 1\right) &= 15 \\ \left(\frac{9}{K} - 1\right) \left(\frac{10}{K} + 1\right) &= 15 \end{aligned} \quad (a+b)(a-b) = a^2 - b^2$$

$$K^2 - 1 = 15$$

$$K^2 = 15 + 1$$

$$K^2 = 16$$

$$K = 4$$

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

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

$$4\pi = 20R$$

$$4\pi = R$$

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

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

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2

Hallar la medida de un ángulo en radianes si se cumple

$$C + S = (C^2 - S^2)$$

$$C + S = (C + S)(C - S)$$

$$1 = C - S$$

$$1 = 10K - 9K$$

$$1 = K$$

$$\frac{20R}{\pi} = 1$$

$$20R = \pi$$

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

3

Siendo S, C y R lo conocido, calcular:

$$E = \sqrt{\frac{C+S}{C-S}} + \sqrt{\frac{C+2S}{C-S}} + \sqrt{\frac{C+6S}{C-S}}$$

$$C = 10K$$

$$S = 9K$$

$$\sqrt{\frac{10K + 6(9K)}{10K - 9K}} = \sqrt{\frac{10K + 54K}{K}} = \sqrt{\frac{64K}{K}} = \sqrt{64} = 8$$

$$\sqrt{\frac{10K + 2(9K)}{10K - 9K} + 8} = \sqrt{\frac{10K + 18K}{K} + 8} = \sqrt{\frac{28K}{K} + 8} = \sqrt{28 + 8} = \sqrt{36} = 6$$

$$E = \sqrt{19} + \sqrt{6} = 25 = 5$$

(Handwritten red scribble)