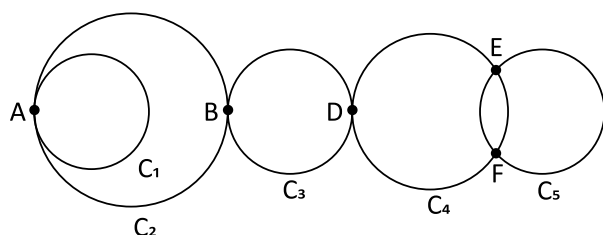


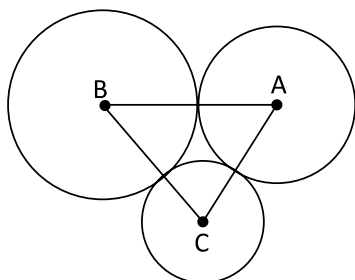
- A** secantes.
- B** tangentes.
- C** externas.

02 Dê a posição relativa das circunferência:



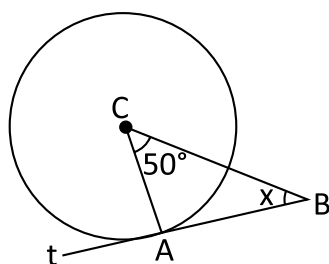
- A** C_1 e C_2
- B** C_1 e C_3
- C** C_2 e C_3
- D** C_3 e C_4
- E** C_4 e C_5

03 As três circunferências são tangentes. O raio menor é 5cm, $AC = 17\text{cm}$ e $BC = 21\text{cm}$. Qual o raio das outras duas circunferências?

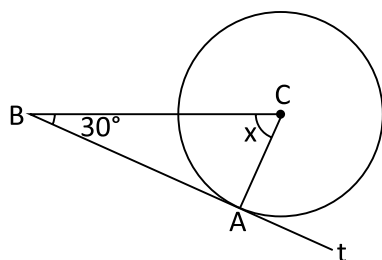


04 Sabendo que a reta t é tangente à circunferência no ponto A , calcule x .

A

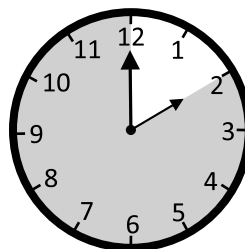


B

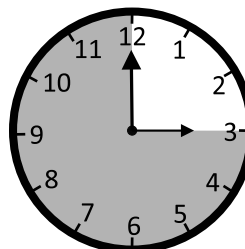


05 Os ponteiros de um relógio formam ângulos centrais. Determine esses ângulos, sem usar o transferidor.

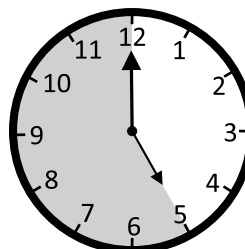
A



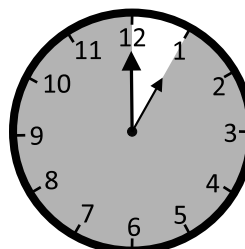
B



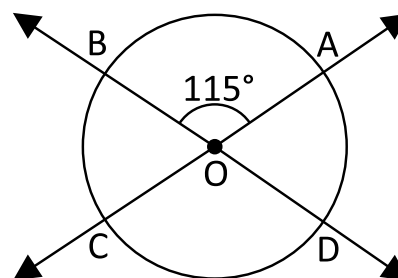
C



D



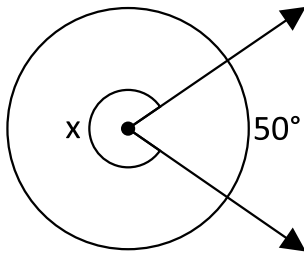
06 Observe a figura e determine o arco menor solicitado:



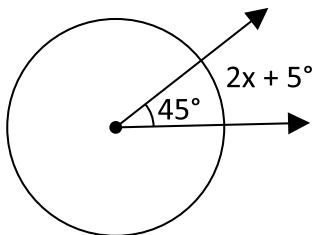
- A** $\widehat{AB}$
- B** $\widehat{BC}$
- C** $\widehat{AD}$
- D** $\widehat{CD}$
- E** $\widehat{AC}$
- F** $\widehat{BD}$

07| Determine o valor de x:

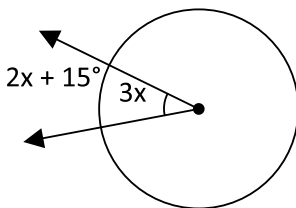
A



B

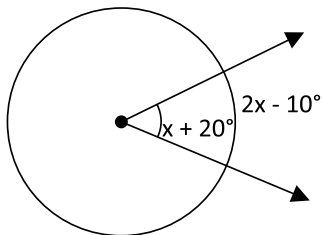


C

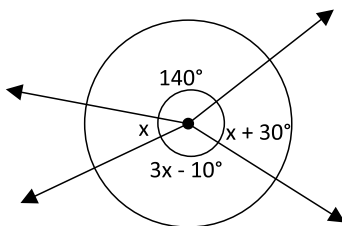


08| Determine o valor de x:

A



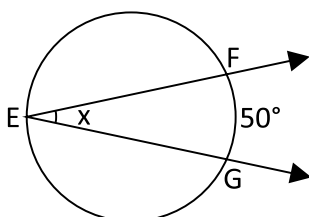
B



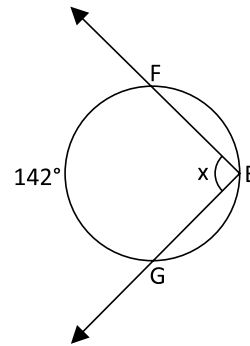
REFORÇO 1

01| Determine x:

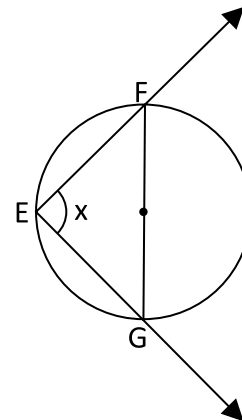
A



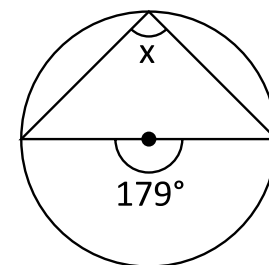
B



C

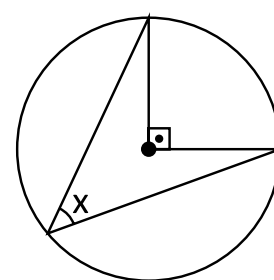


D

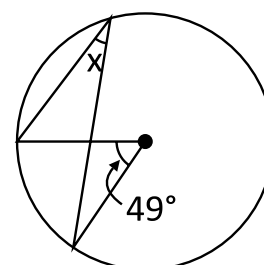


02| Determine x:

A

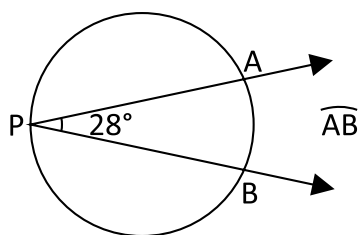


B

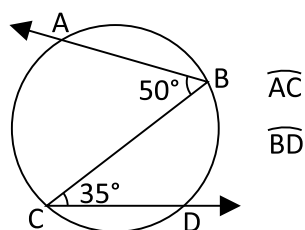


03| Determine o arco solicitado:

A

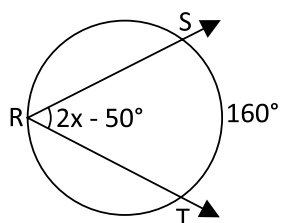


B

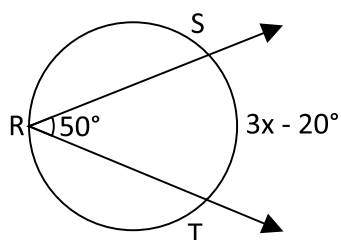


04| Determine x:

A

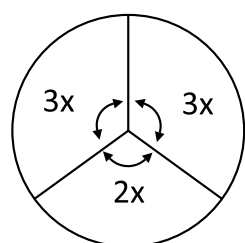


B

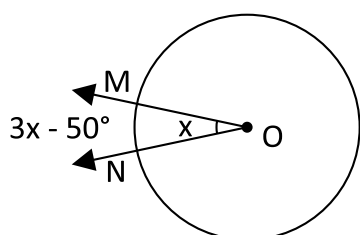


05| Determine x:

A

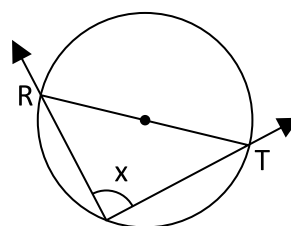


B

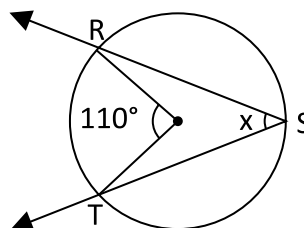


06| Determine os ângulos indicados pelas letras:

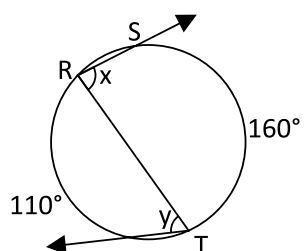
A



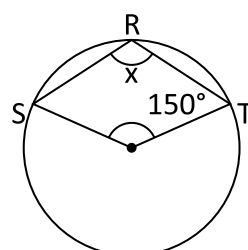
B



C

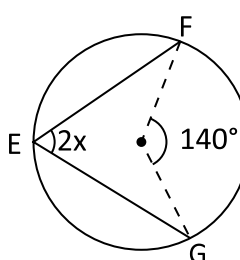


D

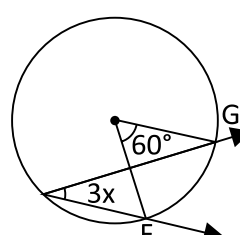


07| Determine x:

A



B



POTENCIAÇÃO

01| O valor da expressão $\frac{1\,234^3}{2\,468^3}$ é:

- A 8
- B $\frac{1}{8}$
- C 4
- D $\frac{1}{4}$

02| O valor de $4^4 \cdot 9^4 \cdot 4^9 \cdot 9^9$ é igual a:

- A 13^{13}
- B 13^{36}
- C 36^{13}
- D 36^{36}

03| Simplificando a expressão $[2^9 : (2^2 \cdot 2)^3]^3$, obtém-se:

- A 1
- B 2^{36}
- C 2^{-6}
- D 2^{-30}

04| O valor da expressão $a^3 - 3a^2x^2y^2$ para $a = 10$, $x = 2$ e $y = 1$ é:

- A 100
- B 250
- C -150
- D -200

05| O valor da expressão numérica

$$-4^2 + (3 - 5) \cdot (-2)^3 + 3^2 - (-2)^4$$

é:

- A 7
- B 8
- C 15
- D -7

06| O valor da expressão $\frac{10^{-3} \times 10^5}{10 \times 10^4}$ é:

- A 10
- B 10^3
- C 10^{-2}
- D 10^{-3}

07| O valor da expressão $5^{-1} - \frac{1}{2}$ é:

- A $\frac{1}{5}$
- B $\frac{3}{10}$
- C $-\frac{1}{5}$
- D $-\frac{3}{10}$

08| O valor de $\frac{3^{-1} + 5^{-1}}{2^{-1}}$ é

- A $\frac{1}{2}$
- B $\frac{1}{8}$
- C $\frac{4}{15}$
- D $\frac{16}{15}$

09| A expressão $\left(\frac{1}{2}\right)^{-3} + \left(\frac{1}{2}\right)^{-5}$ é igual a:

- A 40
- B $\frac{1}{40}$
- C -40
- D $\left(\frac{1}{2}\right)^{-2}$

10| A expressão $\left(\frac{1}{2} + \frac{1}{3}\right)^{-1} + \frac{2}{3}$ é igual a:

- A $\frac{1}{4}$
- B $\frac{28}{15}$
- C $\frac{13}{15}$
- D $-\frac{12}{5}$

11| O valor $\frac{2^{-1} - (-2)^2 + (-2)^{-1}}{2^2 + 2^{-2}}$ é:

- A $-\frac{15}{17}$
- B $-\frac{15}{16}$
- C $-\frac{16}{17}$
- D $-\frac{17}{16}$

RADICAIS

01| Determine as raízes:

- A $\sqrt{81}$
- B $\sqrt{100}$
- C $\sqrt[3]{1}$
- D $\sqrt[3]{-1}$
- E $\sqrt[4]{81}$
- F $\sqrt{121}$
- G $\sqrt[5]{32}$
- H $\sqrt[5]{-32}$
- I $\sqrt{400}$
- J $\sqrt[6]{64}$
- L $\sqrt[3]{1\,000}$
- M $\sqrt[3]{-1\,000}$

02| Calcule, caso exista em $\mathbb{R}$:

- A $\sqrt{64}$
- B $-\sqrt{64}$