

### Tema 3

Problema 3. Solución

$$1,213 \cdot 10^{-28} \text{ m}^3$$

Problema 4. Solución

$$a = \frac{4R}{\sqrt{3}}$$

Problema 5. Solución

$$\frac{c}{a} = 1,633$$

Problema 6. Solución

$$FEA(BCC) = 0,68$$

Problema 7. Solución

$$FEA(HC) = 0,74$$

Problema 8. Solución

$$NC = 6$$

$$FEA(CS) = 0,52$$

Problema 9. Solución

$$\text{densidad} = 10,21 \frac{\text{g}}{\text{cm}^3}$$

Problema 15. Solución

BCC

Problema 16. Solución

A: BCC

The logo for Cartagena99 features the text 'Cartagena99' in a stylized, blue, serif font. The '99' is significantly larger and more prominent than the rest of the text. The logo is set against a light blue background with a white starburst shape behind the text.

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Problema 23. Solución

sistema cristalino tetragonal  
tetragonal centrado en el cuerpo

$$\text{densidad} = 10,52 \frac{\text{g}}{\text{cm}^3}$$

Problema 28

Problema 29

Problema 30

Problema 33

Problema 34

Problema 35

Problema 43. Solución

$$[100] = 0,71$$

$$[110] = 0,71$$

$$[111] = 0,41$$

Problema 44 Solución

$$[110] = 0,61$$

$$[111] = 1$$

Problema 45. Solución

$$(100) = 0,79$$

$$(111) = 0,91$$

Problema 46. Solución

$$(100) = 0,59$$

$$(110) = 0,83$$

Problema 48. Solución

sistema cristalino tetragonal  
tetragonal centrado en el cuerpo

The logo for Cartagena99 features the text 'Cartagena99' in a stylized, blue, serif font. The '99' is significantly larger and more prominent than the 'Cartagena' part. The text is set against a light blue background with a subtle gradient and a soft shadow effect.

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