

Answer on Question #63391, Chemistry / General Chemistry

There is about 1.42 g of calcium, as Ca^{2+} , in 1.00 L of calcium-fortified grapefruit juice. What is the molarity of Ca^{2+} in calcium-fortified grapefruit juice?

Calculation:

$$C_M(\text{Ca}^{2+}) = \frac{m}{Mr(\text{Ca}^{2+}) \cdot V} = \frac{1.42 \text{ g}}{40.08 \cdot 1} = 0.0354 \text{ mol} \cdot \text{L}^{-1}$$

Answer: 0.0354 mole/L Ca^{2+} in calcium-fortified grapefruit juice.

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