

MOLARITY WORKSHEET



1. What is the molarity of a 0.30-liter solution containing 0.50 moles of NaCl?
2. Calculate the molarity of 0.289 moles of FeCl_3 dissolved in 120 ml of solution.
3. If a 0.075-liter solution contains 0.0877 moles of CuCO_4 , what is the molarity?
4. How many moles of NaCl are present in 600 ml of a 1.55 M NaCl solution?
5. How many moles of H_2SO_4 are present in 1.63 liters of a 0.954 M solution?
6. How many liters of solution are needed to make a 1.66 M solution containing 2.11 moles of KMnO_4 ?
7. What volume of a 0.25 M solution can be made using 0.55 moles of Ca(OH)_2 ?
8. What is the molarity in 650 ml solution containing 63 grams of NaCl?
9. How many grams of Ca(OH)_2 are needed to produce 500 ml of 1.66 M Ca(OH)_2 solution?
10. What volume of a 0.88 M solution can be made using 130 grams of FeCl_2 ?

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Answers

1. What is the molarity of a 0.30-liter solution containing 0.50 moles of NaCl?

$$\text{Molarity} = 0.50 \text{ moles}/0.30 \text{ L} = 1.7 \text{ M}$$

2. Calculate the molarity of 0.289 moles of FeCl_3 dissolved in 120 ml of solution.

$$\text{Molarity} = 0.289 \text{ moles}/0.120 \text{ L} = 2.41 \text{ M}$$

3. If a 0.075-liter solution contains 0.0877 moles of CuCO_3 , what is the molarity?

$$\text{Molarity} = 0.0877 \text{ moles}/0.075 \text{ L} = 1.2 \text{ M}$$

4. How many moles of NaCl are present in 600 ml of a 1.55 M NaCl solution?

$$\text{Moles of NaCl} = 1.55 \text{ M} \times 0.600 \text{ L} = 0.930 \text{ mol}$$

5. How many moles of H_2SO_4 are present in 1.63 liters of a 0.954 M solution?

$$\text{Moles of H}_2\text{SO}_4 = 0.954 \text{ M} \times 1.63 \text{ L} = 1.56 \text{ mol}$$

6. How many liters of solution are needed to make a 1.66 M solution containing 2.11 moles of KMnO_4 ?

$$\text{Volume} = 2.11 \text{ moles}/1.66 \text{ M} = 1.27 \text{ L}$$

7. What volume of a 0.25 M solution can be made using 0.55 moles of Ca(OH)_2 ?

$$\text{Volume} = 0.55 \text{ moles}/0.25 \text{ M} = 2.2 \text{ L}$$

8. What is the molarity in 650 ml solution containing 63 grams of NaCl?

$$\text{Molarity} = (63 \text{ g} \times 1 \text{ mole}/58.5 \text{ g})/0.650 \text{ L} = 1.7 \text{ M}$$

9. How many grams of Ca(OH)_2 are needed to produce 500 ml of 1.66 M Ca(OH)_2 solution?

$$\text{Molarity} = 1.66 \text{ M} \times 0.500 \text{ L} \times 74 \text{ g/mol} = 61.5 \text{ g}$$

10. What volume of a 0.88 M solution can be made using 130 grams of FeCl_2 ?

$$\text{Volume} = (130 \text{ g} \times 1 \text{ mol}/126.75 \text{ g})/0.88 \text{ M} = 1.17 \text{ L}$$