NAME Muhammed Mazin DATE _____ CLASS 10B

QUIZ

Molar Relationships

1. A reaction requires 2.5 moles of zinc oxide. How many grams would this equate to?
A) 81.4 g B) 163.5 g C) 203.5 g D) 32.6 g

2.5 moles x ~81g/mol = ~203.5g

2. A teacher has given a lab student a white chemical sample and asks her to confirm that it contains 7.03×10^{23} formula units of sodium hydroxide (NaOH). Using the balance in the laboratory, what mass of NaOH would the student have to find to verify that her teacher was correct?
A) 0.03 g B) 7.03 g C) 40.0 g D) 46.7 g

(7.03 X 10^23) / (6.02 x 10^23) = ~1.17 moles

1.17 x ~40g/mol = ~46.7g

3. **What is** the molar volume of a gas at STP?
A) 1.0 atm/mol B) 22.4 L/mol
C) 1.0 L/22.4 mol D) 22.4 atm/mol

4. How many moles of helium would you find in a birthday balloon that had a volume of 6.2 L? Assume conditions are at STP.
A) 12 moles B) 22.4 moles
C) 3.6 moles D) 0.28 moles

6.2L / 22.4L = ~0.28 moles

5. What is the density of carbon monoxide gas at STP conditions?
A) 1.3 g/L B) 0.75 g/L
C) 28 g/L D) 22.4 g/L

(28.01g/mol) / (22.4L/mol) = ~1.3g/L

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