

Answer Keys for Unit 9 Stoichiometry Worksheets

WKST 1a: Counting Atoms and Ions in Formulas

- 1) 3 calcium ions, 2 phosphate ions, 2 phosphorus atoms, 8 oxygen atoms
- 2) 2 ammonium ions, 1 sulfate ion, 2 nitrogen atoms, 8 hydrogen atoms, 1 sulfur atom, 4 oxygen atoms
- 3) 1 ammonium ion, 1 acetate ion, 1 nitrogen atom, 7 hydrogen atoms, 2 carbon atoms, 2 oxygen atoms

WKST 1b: Math Operations Review

Part I. Addition

- a) 23.41 g; b) 215.01 g; c) 22 g; d) 4.26×10^5 g; e) 6.67×10^{-3} kg

Part II. Subtraction

- a) 9.311 mL; b) 87.65 K; c) 0.000 066 kg; d) 4.6×10^6 mL; e) -3.83×10^{-3} L

Part III. Multiplication

- a) 22 400 mm³; b) 38 m²; c) 2×10^{14} cm²; d) 2.3×10^{15} m²; e) 0.5 m²

Part IV. Division

- a) 200 m; b) 23.1 m; c) 2×10^3 m²; d) 0.200 m or 2.00×10^{-1} m; e) 50 m²

Part V. Mixed Operations

- a) 3.0 mL; b) 3.3 cm; c) 3.2 L; d) 30 m²; e) 0.195 mole

WKST 1c: Writing Chemical Formulas and Formula Masses

Na₂S: 78.07 g

Ba(OH)₂: 171.3 g

Sn(OH)₂: 152.7 g

Li₂O: 29.88 g

NH₄F: 37.04 g

Sn(OH)₄: 186.7 g

MgBr₂: 184.1 g

(NH₄)₂S: 68.15 g

Hg₃P₂: 663.7 g

H₂S: 34.09 g

(NH₄)₂SO₄: 132.15 g

MnI₂: 308.7 g

KI: 166.00 g

(NH₄)₃PO₄: 149.10 g

Co₂O₃: 165.9 g

Ca₃P₂: 182.1 g

NH₄CN: 44.06 g

Fe₂(SO₄)₃: 399.9 g

Mg(OH)₂: 58.32 g

(NH₄)₂O: 52.08 g

SrS: 119.69 g

KCN: 65.12 g

NH₄OH: 35.05 g

Hg₂O: 417.2 g

NaOH: 40.01 g

BaCO₃: 197.3 g

Pb₃(PO₄)₄: 1 001.5 g

Zn(C₂H₃O₂)₂: 183.47 g

Al₂(CO₃)₃: 234.0 g

Pb(C₂H₃O₂)₂: 325.3 g

CaCr₂O₇: 256.1 g

KI: 166.0 g

Fe₂(Cr₂O₇)₃: 759.7 g

Na₂CrO₄: 162.00 g

Pb(C₂H₃O₂)₂: 325.3 g

Al(C₂H₃O₂)₃: 204.11 g

PbO₂: 239.2 g