Name : _____ Date : _____

Mole Conversion Worksheet

Answer the following questions.

1. Determine how many atoms are present in 2.5 moles of silicon.

2. Determine the mass of 4 moles of iron.

3. How many moles of nickel is 176 grams?

4. How many atoms are present in 2.1 moles of cobalt?

5. What is the mass of 3 moles of fluorine?

6. How many atoms are in 48.6 grams of magnesium?

7. What is the mass of 6.023×10^{23} atoms of sulfur?

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Mole Conversion Worksheet

Answers

1. Determine how many atoms are present in 2.5 moles of silicon.

Number of atoms present in 2.5 moles of Si = 2.5 x 6.023 x 10^{23} = 15.05 x 10^{23} atoms

2. Determine the mass of 4 moles of iron.

4 moles of iron weigh = 4 x 55.9 grams = 223.6 grams

3. How many moles of nickel is 176 grams?

Number of moles of nickel in 176 grams = 176/58.7 = 2.99 moles ~ 3 moles

4. How many atoms are present in 2.1 moles of cobalt?

Number of atoms present in 2.1 moles of cobalt = 12.64 x 10^{23} atoms

5. What is the mass of 3 moles of fluorine?

The mass of 3 moles of fluorine = 3 x 18.99 grams = 56.97 grams

6. How many atoms are in 48.6 grams of magnesium?

Number of atoms present in 48.6 grams of magnesium = (48.6/24) x 6.023 x 10^{23} = 12.19 x 10^{23} atoms

7. What is the mass of 6.023 x 10^{23} atoms of sulfur?

Mass of 6.023 x 10^{23} atoms of sulfur = (6.023 x 10^{23}/6.023 x 10^{23}) x 32 = 32 grams