1. (5 points) Check ALL of the boxes that represent physical changes.

☐ A pot of water boils away
☐ A two-part glue sets (like an epoxy)
☐ Salt dissolves in water
☐ Water turns to ice on a cold day
☐ An egg is hardboiled

2. (5 points) Check ALL of the boxes that represent an extensive property.

☐ Density
☐ Boiling point
☐ Mass
☐ Volume
☐ Length of wire

3. (4 points) Show how you would find the answer to the following questions and report the answer.

a. How many moles are in 56 g of Si? The molar mass of Si is 28 g/mol.

\[ ? \text{ mol Si} = \frac{56 \text{ g Si}}{1} \times \frac{1 \text{ mol Si}}{28 \text{ g Si}} = 2 \text{ mol Si} \]

b. How many grams are in 3 mol of O? The molar mass of O is 16 g/mol.

\[ ? \text{ g O} = 3 \text{ mol O} \times \frac{16 \text{ g O}}{1 \text{ mol O}} = 48 \text{ g O} \]
1. (5 points) Check ALL of the boxes that represent chemical changes.

- An egg is hardboiled
- A two-part glue sets (like an epoxy)
- Water turns to ice on a cold day
- Salt dissolves in water
- A pot of water boils away

2. (5 points) Check ALL of the boxes that represent an intensive property.

- Volume
- Length of wire
- Mass
- Density
- Boiling point

3. (4 points) Show how you would find the answer to the following questions and report the answer. No calculator necessary.

   a. How many grams are in 4 mol of Ar? The molar mass of Ar is 40 g/mol.
   \[
   \text{? g} = 4 \text{ mol Ar} \times \frac{40 \text{ g}}{1 \text{ mol Ar}} = 160 \text{ g Ar}
   \]

   b. How many mol are in 36 g of C? The molar mass of C is 12 g/mol.
   \[
   \text{? mol C} = \frac{36 \text{ g C}}{12 \text{ g mol C}} = 3 \text{ mol C}
   \]