Here are **twelve statements** and **twelve numbers**. However, they are all mixed up.

Pick a number which matches the statement.

a. The mass of 1 mole of hydrogen molecules.
..... g

b. The number of particles in a mole of chemical.
.....

c. The mass of 1 mole of oxygen gas.
..... g

d. The mass of sodium hydroxide, NaOH, required to make 2 dm^3 of 1 mol/dm^3 solution.
..... g

e. The mass of 0.5 mole of calcium carbonate ($CaCO_3$).
..... g

f. The number of atoms in two molecules of butanol.
.....

g. The volume occupied by 0.25 mole of any gas at room temperature and pressure.
..... dm^3

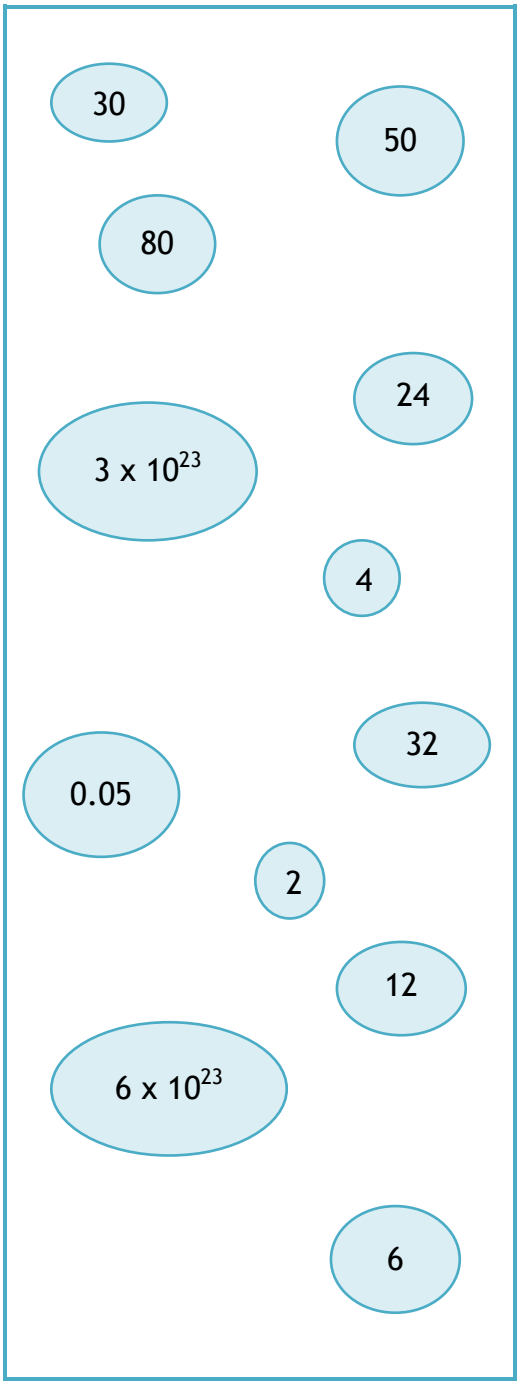
h. The number of moles in 72 g of water.
..... mol

i. The number of moles in 500 cm^3 of 0.1 mol/dm^3 solution.
..... mol

j. The number of atoms in a molecule of glucose.
.....

k. The volume occupied by 22 g of carbon dioxide gas, CO_2, at room temperature and pressure.
..... dm^3

l. The number of atoms in 6 g of carbon.
.....



Required data

Avogadro constant = 6×10^{23}

1 mole of any gas occupies volume of 24 dm^3 at room temperature and pressure

Relative atomic masses (A_r):

hydrogen = 1 carbon = 12 oxygen = 16 sodium = 23 calcium = 40

Answers

a. 2g

b. 6×10^{23}

c. 32g

d. 80g

e. 50g

f. 30

g. 6 dm^3

h. 4 mol

i. 0.05 mol

j. 24

k. 12 dm^3

l. 3×10^{23}