1 Assume Avogadro's number is 50. Estimate the molar mass of oranges and of grapes.

A orange = 5 kg/mol; grape = 0.05 kg/mol
B orange = 25 kg/mol; grape = 0.5 kg/mol
C orange = 12.5 kg/mol; grape = 0.25 kg/mol
D none of the above

2 Ten drops of water is 0.5 mL = 0.5 g. How man moles of water molecules are contained in ten drops of water?

A 5.0
B 0.5
C 0.05
D None of the above?

3 Ten drops of water contains 0.5/18 moles of water molecules. How many moles of electrons does ten drops of water contain?

A 0.5/18
B 4/18
C 5/18
D None of the above?

4 Ten drops of water contains 5/18 moles of electrons. How many electrons does ten drops of water contain?

A 1 x 1023
B 2 x 1023
C 6 x 1023
D None of the above?

5 The chemical formula of glucose is C6H12O6. How many grams of glucose contain 6 x 1023 molecules of glucose?

A 6 + 12 + 6 = 24
B 6*12 + 12*1 + 6*16 = 180
C 1
D None of the above

6 The molar mass of glucose, C6H12O6, is 180 g. How many moles of carbon atoms are in 2.26 g of glucose?

A 2.26 g gl * 1 mol/180 g gl
B 2.26 g gl * 1 mol gl/180 g gl * 6 mol C/1 mol gl
C 2.26 g gl * 6 C/gl
D None of the above

7 Challenge: How many grams of water contain the same number of O atoms as 900 grams of carbon dioxide?

A 24
B 300
C 700
D None of the above

8 There are 1800/44 mol of O atoms in 900 g of CO2. How many grams of water contain this many moles of O atoms?

A (1800/44) mol O * 18 g H2O/mol H2O * 1 mol O/1 mol H2O
B (1800/44) mol O * 18 g H2O/mol H2O * 1 mol H2O/1 mol O
C (44/1800 mol O) * 18 g H2O/mol H2O * 1 mol H2O/1 mol O
D None of the above