TESTING PRIOR KNOWLEDGE

Title of the activity: ACIDIC COLA: Determining phosphoric acid concentration in colas

(File name is: E_COLA_Q_EN, which means that it is the English version of the test questions written for this Type "E" activity. The correct answers are shown in RED.)

Choose the correct answer.

1. A cola sample must be boiled prior to testing...
a. to remove CO_2
b. to get rid of caffeine.
c. to remove H_3PO_4
d. to kill bacteria.

2. 300.0 mg KH_2PO_4 is dissolved in 500.0 mL water. 25.00 mL is transferred to a volumetric flask and diluted to 100.0 mL. The concentration of KH_2PO_4 is then...
a. 15 mg/L
b. 150 mg/L
c. 75 mg/L
d. 125 mg/L

3. If the absorbance of a sample is 0.500, the transmittance is...
a. 3.16%
b. 1.70%
c. 31.6%
d. 50.0%

4. 50.00 mL cola, which contains 40 mg H_3PO_4 needs ..... mL of NaOH solution c(NaOH) = 0.0420 mol/L to reach the first equivalence point.
a. 35.68
b. 13.86
c. 9.718
d. 11.53

5. What colour is a solution that absorbs in the red region (e.g. around 750 nm) of the visible spectrum?
a. green
b. blue
c. yellow
d. black

6. How much potassium dihydrogen phosphate do you weigh for a 1000.0 mL standard solution, if diluting 5.00 mL of this standard solution to 100.0 mL has a concentration of 1.0 mg/L phosphorus?
a. 87.8 mg
b. 93.4 mg
c. 6805 mg

d. 878 mg

Note: answers are given in red. These need to be removed before the test is used.