

Dilution Problems

Name _____

I. Give the dilution fractions and factors for the following dilutions:

A. 2.0 ml into 5.0 ml --

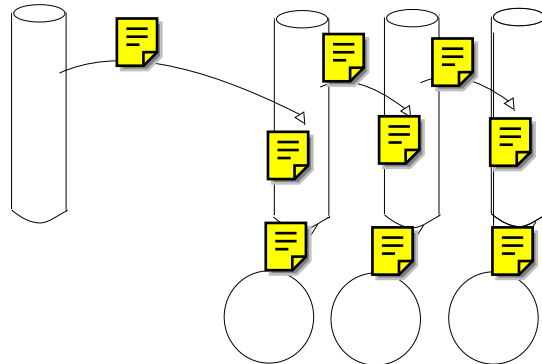
B. 4.0 ml into 16.0 ml --

C. 10.0 ml into 40.0 ml --

II. You carry out 3 (1: 100) dilutions and 2 (1: 10) dilutions of a bacterial culture. Then, you make a spread plate with 0.1 ml of the FINAL dilution. You have 145 colonies on your plate after two days of culture. What is the dilution fraction? What is the dilution factor? What was the initial concentration of the culture?

III. You have a culture of about 2×10^7 bacteria. What total dilution fraction do you need to get about 100 colonies (bacteria) on a pour plate?

IV. Given the following dilution scheme:



A. What is the cumulative dilution factor for each tube ?

Tube 1:

Tube 2:

Tube 3:

B. Plates A, B, C have 750, 93, and 20 colonies respectively. Which plate would you use to determine the initial concentration of the sample? What is the initial concentration?