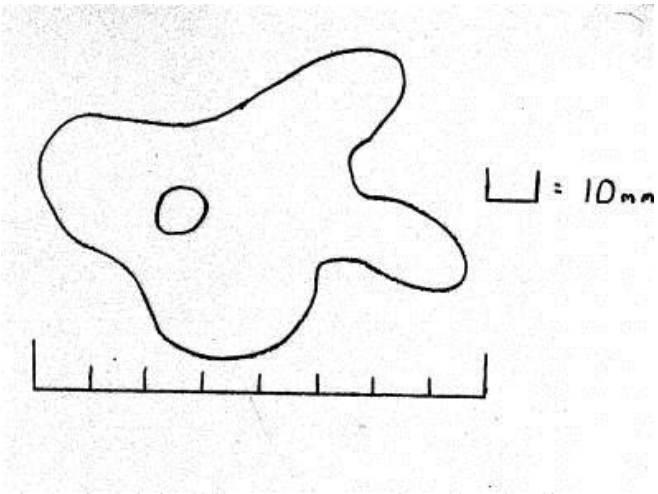
Worksheet 1 - Calculations Related to the Microscope

Anne viewed an amoeba under the high power 40X objective lens on her microscope. She drew the following picture of that amoeba:



She needs to calculate the magnification of her drawing. Other important information includes:

- Eyepiece lens = 5X Low Power Objective = 4X
- Low Power Diameter of Field of View = 4.2 mm
- Estimate of the number of times object fits across field of view (high power) = 4.5

*Anne used the longest dimension to estimate.

a) Convert the diameter of field of view on low power to *u*m.

b) Calculate the total magnification under low power and high power.

c) Calculate the diameter of the field of view under high power.

d) Calculate the size of the object under high power.

e) Measure the size of the drawing. Convert to *u*m.

f) Calculate the magnification of Anne's drawing.