

QUIZ on Lecture P1_Wk3_L4

1. The accuracy of a calculated estimate for the spring constant of a microcantilever using geometrical and material properties alone is limited by
 - a) an inexact knowledge of the microcantilever's length
 - b) an inexact knowledge of the microcantilever's width
 - c) an inexact knowledge of the microcantilever's thickness
 - d) an inexact knowledge of the Young's modulus of the material from which the microcantilever is made
2. Once the optical sensitivity of an AFM instrument is known, this calibration can be applied to all future cantilevers used with that instrument.
 - a) True
 - b) False
3. The confidence in the XY calibration of AFM images can be greatly increased by
 - a) looking up the calibration in the AFM instrument manual
 - b) asking another user what calibration was utilized the last time the AFM instrument was operated
 - c) performing scans of "checkerboard" substrates with known feature size
 - d) sending an email to the technical support information hotline
4. When checking the z-calibration of an AFM instrument, it is best to
 - a) scan a feature of known calibrated height with the AFM and then measure the height of the feature using a single line scan that traverses the feature
 - b) look up the calibration in the AFM instrument manual
 - c) scan a feature of known calibrated height with the AFM and then measure the height of the feature using an area histogram surrounding the feature
 - d) ask another user what z-calibration was utilized the last time the AFM instrument was operated