For the following questions, *show all of your work*. It is not sufficient to provide the answers.

**Exercise 1.**   Convert the following numbers from base 6 to base 10:

  a. $2134_6$

  b. $152.43_6$

**Exercise 2.**   Convert the following numbers from base 10 to base 6:

  a. $440_{10}$

  b. $23.2_{10}$

**Exercise 3.**   Convert the following numbers from base 10 to binary, octal and hexadecimal:

  a. $237_{10}$

  b. $131_{10}$

**Exercise 4.**   Convert the following numbers from hexadecimal to decimal and to binary.

  a. $7F_{16}$

  b. $8B_{16}$