Practice Problems on Required Mathematical Skills

This problem set is designed to help you identify areas in which your mathematical skills might be weak. It is not designed to test every last skill you might need in this course. Nevertheless, it will give you an idea of the level of mathematics required in this course.

1. Simplify each of the following expressions as much as possible:

   (a) $\log_{10} 10^{-p\text{H}}$

   (b) $\log_{10}(10x^2)$

   (c) $e^{\ln x}$

   (d) $\dfrac{(x+1)^2}{x^2+1}$

2. Solve the following equations for x:

   (a) $13x^2 + 2(x-1) = 42$

   (b) $13.2 = -\log_{10} x$

   (c) $13.2 = e^{x^2}$

   (d) $4.3 = \dfrac{x}{x+1}$

   (e) $a = \dfrac{2x^2+b}{x+c}$