Math-1003b Homework #4

<u>Reading</u>

- Review pages 168-9 on set-builder and interval notations
- Sections 7.7, 9.1 (on sets), 8.1, 8.2

<u>Problems</u>

1). It costs a farmer $0.27 to farm each square foot of land. The farmer has one field that is 2 hectares in size, and another that is 3 acres in size. How much does it cost to farm all of the land? Use the following conversions:

   1 hectare = 2.47 acres
   640 acres = 1 square mile
   1 mile = 5280 feet

2). A biker starts out from home and rides for 4 miles before getting a flat tire. He walks back home carrying his bike, which takes one hour longer than the ride. The biker can ride nine miles per hour faster than he can walk. How fast can he walk and how fast can he ride?

3). A parent tells his/her kids to wash the family car. Working alone, the first kid can wash the car 10 minutes faster than the other kid, but working together they can wash the car in 12 minutes. How long does it take for each kid to wash the car working alone?

4). Let:

$$A = \{1, 2, 3, 4\}$$

$$B = \{2, 4, 6\}$$

Determine the following sets:

   a). $A \cup B$

   b). $A \cap B$

   c). $A - B$

   d). $A \times B$