Problem Solving Practice

Define a variable for each problem. Only do step one. DO NOT SOLVE!

1. The diameter of Jupiter is 88,000 mi. This is about 11.1 times the diameter of the Earth. What is the diameter of the Earth?
   
   Step 1   x:_____________________________________________

2. The distance from Baltimore to New York is 202 mi. This is 205 mi less than the distance from Baltimore to Boston. How far is Baltimore from Boston?
   
   Step 1   x:_____________________________________________

Use the given variable to define any other unknowns. Only do step two. DO NOT SOLVE!

3. Suppose you need to put a fence around a rectangular garden that has a perimeter of 64 ft. The width is 12 ft less than the length. Find the length and width of the garden.
   
   Step 1   x: the length (ft)
   
   Step 2   _____________________________________________

4. An apartment building contains 250 apartments. There are 50 more two-bedroom apartments than one-bedroom apartments. How many apartments of each type are there?
   
   Step 1   x: the number of two-bedroom apartments
   
   Step 2   _____________________________________________

Write and solve an equation for each problem. Only do step three.

5. A computer repair bill was $225. This included $75 for parts and $50 for each hour of labor. Find the number of hours of labor.
   
   Step 1   x: the number of hours of labor
   
   Step 2   none
   
   Step 3
6. Suppose you make $126 selling popcorn. If your expenses were $22.50, how many $1.50 bags of popcorn did you sell?

   Step 1  \( x \): the number of bags of popcorn sold

   Step 2  none

   Step 3

7. Ian drove 1500 mi to New York in two days. He traveled 150 mi more the first day than he did the second day. How far did he travel each day?

   Step 1  \( x \): distance traveled the first day (mi)

   Step 2  \( x – 150 \): distance traveled the second day (mi)

   Step 3

Use problems 1 – 7 to answer the following questions.

8. Where in the problem can you find the information for step 1?

9. Why does \( x – 150 \) tell you the distance traveled the second day in problem 7?

10. How can you tell that problems 3, 4, and 7 will have a step 2?