Name_____

Module #1:   **Date** _____

Worksheet 3a*:*   ***Problem-Solving Strategies***

⌨ **View Tutorial 3a**

   ⚷ **Objective:** *Recognize important information in a given situation, and use each of the problem solving methods.*

In order to become a good problem solver, you must have a plan to follow. The following table gives different strategies to use, to solve a variety of problems.

Guess & Check	Make a reasonable guess and check if it works. If it is incorrect, try again. (Make a chart of guesses to keep track)
Look for a Pattern	Find any similarities or differences between given information.
Write a Number Sentence	Take the written information and write it out in math; ignore irrelevant information.
Make a Diagram or a Model	Draw a picture or a graph to solve a problem more easily. You could also make a table to sort information.
Work Backward	Start at the end of a problem and work your way back to the beginning to find the solution.

Solve each problem using any of the above strategies:

1. Jupiter has a diameter of about 86,900 miles, 27.5 times the diameter of Mercury. Earth's diameter is about 7,900 miles, 2.5 times that of Mercury. Jupiter's diameter is about how many times greater than Earth's diameter.

                                                      _____

2. Starting at the park, Jake bikes 3 blocks north, 4 blocks east, 4 blocks south, 7 blocks west, and 1 block north. How many blocks is he from the park now? *(Hint: Draw a diagram)*

                                                      _____

3. Use *guess and check (and make a chart to keep track)* to find two whole numbers whose product is 84 and whose sum is less than 20.

                                                      _____

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4. Janet earns $9 per hour for proofreading essays. She earned $126 last week. Eva receives $171 for proofreading a manuscript. She completes the project in 18 hours. Is she paid more or less per hour than Janet? How much more or less?

   _____

5. Jackie rides her bike to work every day. For variety, she tries different routes throughout the week. During one week, she rode a total of 13.4 miles. On Tuesday she rode 2.7 miles. On Wednesday she rode 0.8 mile less than on Tuesday. On Thursday she rode 1.3 miles more than on Wednesday. On Monday and on Friday she rode the same route. How far did she ride on Monday?
   (Hint: Organize your information)

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6. Allison and her dogs, Jake and Coal, jog together each day. Each day they jog one-quarter mile farther than the previous day. On Sunday they cover 4 ½ miles. How far did they jog the previous Sunday? *(Hint: Make a chart)*

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7. Four friends had lunch together and each ordered the same item. They take turns paying the bill when they go out to lunch, so John paid $70.00. The waiter brought John his change of $4.21. This bill included a 7% ($3.63) (rounded to the nearest cent) tax and a 20% ($10.36) tip. What was the cost of the single item each ordered? *(HINT: Work backwards)*

   _____

8. A certain employer needs two people to each work 15 hours to finish a project. He offers each person a choice of earning $10 an hour or a penny for the first hour and then doubling the amount each hour through the 15 hours. Shayla chooses $10 an hour and Shain chooses the penny the first hour which doubles every hour. Who will earn more and what will each make? *(Hint: Make a chart and find a pattern)*.

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