PGR: Problem Guided Reading  
(For Math and Math Related Reading)

Purpose: To provide a framework for studying math and preparing for math tests that is based on problem solving more than reading.

Goals:
- To spend more time doing and less time reading.
- To provide for greater comprehension by relating previous knowledge to new information.
- To encourage efficiency by flexible but purposeful reading.

Method:

1. **Decide whether PGR really applies to your situation.**
   - Works best if your homework and tests consist mainly of problems.
   - Does not work as well if you cannot solve any problems without understanding the content of the entire chapter.

2. **Classify homework problems (or the problems that appear in the chapter.)**
   - If you can solve some without referring to other sources, mark those accordingly.
   - If your lecture notes give enough information for solving some problems, label those accordingly.
   - It would be helpful to code the remaining problems in your textbook by writing the section or page numbers that you will probably need to consult to work them. Doing this provides a good overview of the chapter.

3. **Decide which problems to work on first.**
   - Start with those you already know how to solve.
   - Continue with the easiest problems from the earliest part of the chapter.
   - Work with one type of problem at a time.

4. **Start solving a problem.**
   - Try to solve as much of the problem as you can without consulting any other sources.
   - Analyze the problem. Separate into knowns and unknowns. Note the steps that you already know. Identify the formulas that you will need. Solve as much of the problem as you can before you read the text.
   - Try to gain a better understanding of what you need to learn from the reading.
   - If possible, indicate what you think the solution should look like. (Perhaps you know it should be a fraction or be between 100 and 200.)
4. **Consult your sources.**
   - To save time, consult whatever sources will help you solve your problem the fastest: consult your textbook and lecture notes for the section that explains the concept.
   - Whatever you decide to read, you will now be reading with a clear sense of purpose in mind to help you understand the problem.
   - To save time, read selectively (just the material that will help you solve the problem.)
   - Switch back from your reading to the problem until you have solved the problem.

5. **Go on to the next problem.**
   - Follow the previous two steps until you have solved the rest of the problems.
   - You will be reading only to solve the first few problems of the same type. After you have solved a few of the same kind, you won’t need the text.
   - When you have solved all of the problems, you will probably find that you have read most of the chapter.

6. **Review the chapter.**
   - Some textbooks include material not used in solving problems; you will need to decide how much effort you should devote to studying it.
   - If you have already read most of the chapter while solving problems, you may only need to skim it now to get the total picture.

7. **Keep solving problems.**
   - Since tests involve problem solving, spend most of your study time solving problems.
   - If you run out of problems, make up your own.
   - Solve problems from past chapters for review.
   - Put problems on cards and mix the cards to determine if you can solve the problems in different contexts.
   - Try to understand the problems rather than memorizing solutions and formulas.

**Advantages of PGR:**
- Efficiency is increased.
- Comprehension is improved.
- Slower readers can eliminate unnecessary information.
- Concentration is easier as reading has a direct purpose.