Questions for Problem Solving

Problem Comprehension:
• What is the problem about? What can you tell me about it?
• How would you interpret that?
• Would you please explain that in your own words?
• What do you know about this part?
• Do you need to define or set limits for the problem?
• Is there something that can be eliminated or that is missing?
• What assumptions do you have to make?
• What made you think that was what you should do?
• How is this like the mathematics of a real-life problem?
• What were the mathematical ideas in this problem?
• What was the one thing you learned?
• What kinds of mathematics were used in this investigation?
• Where else would this strategy be useful?
• What other problems does this lead to?
• How would this work with other problems?
• What questions does this task raise for you?

Approach and Reasoning:
• Where could you find the needed information?
• What have you tried so far? What steps did you take?
• What didn’t work? How did you decide that?
• What did you discover?
• What do you understand now that you didn’t before?
• How did you organize the information? Do you have a record?
• Do you have a system, a strategy?
• How would you research that?
• Have you solved any problems like this before?
• Give me another related problem. Is there an easier problem?
• Is there another way to solve this problem? Is there another way to communicate that?
• What were your first thoughts about the task?
• Are there any relationships in this problem that will always be present in similar problems?
• Are there other ways to solve this problem?

Solution
• Are you sure your solution is correct?
• Why/How?
• Is that the only possible answer?
• How would you check the steps you have taken for your answers?
• Other than retracing your steps, how can you determine if your answers are appropriate?
• Is there anything you overlooked?
• How did you know you were done?

Communication
• Could you explain what you know right now?
• How would you explain this process to a younger child?
• Could you write an explanation for next year’s students (or some other audience) of how to do this?
• Which words were most important? Why?
• Could you explain that another way?
• Can you explain your reasoning?
• What pictures do you have in your mind to help you think about the task?

Connections
• Can you predict what will happen?
• What was your estimate or prediction? Why?
• How do you feel about your answer?
• What else would you like to know?
• Is there a general rule?
• Is the solution reasonable?