PROBLEM SOLVING TEMPLATE EXAMPLE

Problem

To help prevent drowning accidents, a protective fence is to be erected around a pool whose dimensions are 20 m by 10 m. Since there is an existing fence on one side, new fencing is only required around *three* sides of the pool. In addition, the gap between the fence and the edge of the pool must be uniform on opposite sides of the pool. If 100 m of fencing material is available, what is the maximum area that can be enclosed by the fencing?

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1. Understand the Problem

Do you understand all the terminology used in the question? Do you understand what are you being asked to do? What information is given? Is all the given information required? Is there any missing information? What would a reasonable answer look like? Can you represent the problem in different ways? (**e.g.** diagram, graph, model, table of values, equation, etc.) …

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2. Devise a Strategy

What mathematical concepts are relevant and do you understand them? Do you know any strategies that could work? Do you need to invent a new strategy? Can you solve a simplified version of the problem? Can you solve a related problem? Can you work backwards and then reverse the steps? ...

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3. Carry Out the Strategy

Carefully carry out the strategy that you devised in step 2.

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4. Check the Solution

Carefully check your solution. Does your answer make sense? Does it agree with the prediction you made in step 1? Have others arrived at the same answer?