Problem-solving tips gained through solving

"Training for a footrace"

There are many ways to solve most problems. Be creative!

You can modify the problem if you want. Be creative! (Not on exams.)

Solutions apply not only to the original problem but to others with the same form as well. (For example, increasing training mileage at 2 miles/week has the same form as increasing bank account at $2/day.)

Knowing how to solve a problem is more beneficial than solving a problem.

Make sure you understand the problem.

Strategize before jumping in.

A picture, a graph, a diagram often helps in starting out.

Make reasonable approximations. (For example we approximated 13.1 miles as 13 miles.)

Work with symbols not numbers. Even if you need a number at the end, work with symbols then plug in numbers at the last step.

Use equations, but don't be bound by them. See what fits the problem, not what fits a list of equations you've memorized or copied down.

Computers, like equations, are good servants and poor masters.

Use multiple solution strategies to check your answer. What did you learn through each different strategy?

Don't be afraid. You will make mistakes, you will get lost. Learn from your mistakes, understand them, enjoy them, "take the scenic route".

"The perfect is the enemy of the good." – Voltaire