Fly Fishing Rules

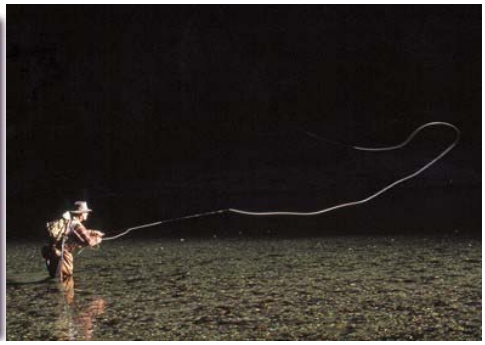
Description

I like to fly fish. I need a rule of thumb that tells me how far away the fish really is when I'm fishing. Remember, the water refracts the light (see *Snell's Law*), making the fish appear further away than it actually is. Please advise, and try to be fairly quantitative. In other words, it is not enough to say, "Aim closer to yourself, Dr. Frank." Instead, I want to know *how much* closer—and remember, I don't have a calculator on the river.

To get credit for this assignment, I want to see some graphs and calculations, and bottom line, I need a good rule. Help!

There are a couple strategies one could use:

a) Calculation iteration, record results, recognize the patterns;
b) Physical modeling—you could use a clear container (baking pan?) and learn by experience;
c) Theoretical—you could derive a function from first principles;
d) Your own, out-of-the-box approach.



Who has agreed to do this assignment:

Maddie
Seth
Adam
Jared
James

Due next Wednesday