Problem of the Week
Problem E
Keeping it Small

Clara is learning to code, so she has written a program to help her practice what she has learned so far.

Clara's program takes two real numbers as input, called A and B. First, her program doubles A, squares the result, and then reduces this result by four times A. The result is called C. Then her program squares B, and then increases this result by six times B. The result is called D. Finally, her program outputs the sum of C and D.

Determine the minimum possible output of Clara's program, and the two input values that produce this output.