From *Smilla's Sense of Snow*

Peter Höeg

The following is a passage comprising a number of excerpts taken from pages 121–22 of Smilla's Sense of Snow *by Peter Höeg.*

"Because the number system is like human life. First you have the natural numbers. The ones that are whole and positive. The numbers of a small child. But human consciousness expands. The child discovers a sense of longing, and do you know what the mathematical expression is for longing:"

"The negative numbers. The formalization of the feeling that you are missing something. And human consciousness expands and grows ever more, and the child discovers the in between spaces. Between stones, between pieces of moss on the stones, between people. And between numbers. And do you know what that leads to? It leads to fractions. Whole numbers plus fractions produce rational numbers. And human consciousness doesn't stop there. It wants to go beyond reason. It adds an operation as absurd as the extraction of roots. And produces irrational numbers."

"It's a form of madness. Because the irrational numbers are infinite. They can't be written down. They force human consciousness out beyond the limits. And by adding irrational numbers to rational numbers, you get real numbers."

"It doesn't stop. It never stops. Because now, on the spot, we expand the real numbers with imaginary square roots of negative numbers. These are numbers we can't picture, numbers that normal human consciousness cannot comprehend. And when we add the imaginary numbers to the real numbers, we have the complete number system. The first number system in which it's possible to explain satisfactorily the crystal formation of ice. It's like a vast open landscape. The horizons. You head toward them and they keep receding. . . ."

The sum of two numbers is 19 and the sum of their squares is 205. What are the numbers?