Info Gap: What Was Multiplied?

Problem Card 1

There are two complex numbers $(a + bi)$ and $(c + di)$ whose product is an imaginary number. What are the two complex numbers?

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Data Card 1

- The product of the two numbers is $34i$.
- The real part of $(a + bi)$ is 4.
- The imaginary part of $(a + bi)$ is -1.

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Problem Card 2

There are two complex numbers $(a + bi)$ and $(c + di)$ whose product is a real number. What are the two complex numbers?

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Data Card 2

- The product of the two numbers is 12.
- The real part of $(a + bi)$ is 2.
- The imaginary part of $(c + di)$ is 3.

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Problem Card 3

There are two complex numbers $(a + bi)$ and $(c + di)$, and $(a + bi)^2 = (c + di)$. What is $(a + bi)$?

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Data Card 3

- The real part of $(c + di)$ is -6.
- The imaginary part of $(c + di)$ is 8.