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There once was a young adventurous man who found among his great-grandfather's papers a piece of parchment that claimed to reveal the location of a hidden treasure. The instructions read:

Sail to 17° North latitude and 88° West longitude where thou wilt find a deserted island. There lieth a large meadow, not pent, on the north shore of the island where standeth a lonely oak and a lonely pine. There thou wilt see also an old gallows on which we once were wont to hang traitors. Start thou from the gallows and walk to the oak counting thy steps. At the oak thou must turn right by a right angle and take the same number of steps. Put here a spike in the ground. Now must thou return to the gallows and walk to the pine counting thy steps. At the pine thou must turn left by a right angle and see that thou takest the same number of steps, and put another spike into the ground. Dig halfway between the spikes; the treasure is there.

The instructions were quite clear and explicit, so the young man chartered a ship and sailed to the location and found the island. He also found the field and the oak and the pine, but to his great sorrow the gallows was gone. Too long a time had passed since the treasure map had been written; rain and sun and wind had disintegrated the wood and returned it to the soil, leaving no trace even of the place where it once had stood.

The young man fell into despair, then in an angry frenzy began to dig at random all over the field. But all his efforts were in vain; the island was too big. So he sailed back home with empty hands. And the treasure is probably still there.

Find the treasure.

- (1) Put the trees on the complex plane with the real axis connecting them and the imaginary axis halfway between them.
- (2) Put the location of the gallows pretty much anywhere you want.
- (3) Draw the vectors indicated from the instructions, place the spikes, connect them, and mark an X where the treasure should be.
- (4) Now based on a general representation of the location of the gallows, find the actual vectors you have drawn and find the exact location of the treasure.