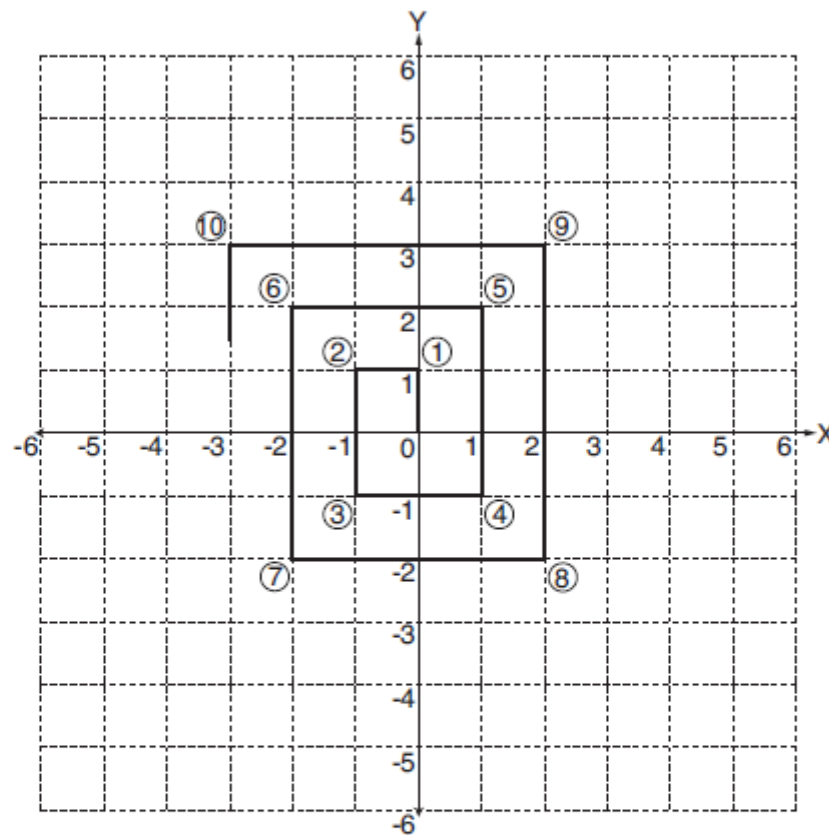


Spiral Bound

A spiral is drawn on a square grid. Part of the spiral is shown on this diagram.



The spiral starts at (0,0) and its corners are labelled ①, ②, ③, ...
The length of the spiral from the origin (0,0) to corner ⑤ (1,2) is 9 units.

- 1 What is the length of the spiral from the origin (0,0) to corner ⑩ (-3,3)?
- 2 Investigate the length of the spiral from the origin to different corners.
- 3 Extend your investigation, making clear the rules and methods that you use.