# PROBLEM OF THE WEEK #5
(Spring 2024)

When it gets switched on, a wind-up toy moves $3\,\mathrm{cm}$ in a straight line, then stops and makes a $60°$ left turn. Then it moves $2\,\mathrm{cm}$ in the new direction, after which it stops and makes another $60°$ left turn. It continues in the same way: each time it moves, it goes two-thirds as far as the time before, and in between movements it always turns $60°$ to the left. If this continues forever, the toy will approach a certain point. How far away is that point, in a straight line, from the toy's starting point?
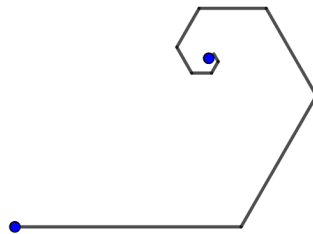
[Please fully explain your answer.]

Email solutions to `kwonmi@uwplatt.edu` by 2:00pm on Wednesday, February 28, 2024.

Every week, the best solution submitted earns a $10 Platteville gift certificate; the top scorer each semester also wins a cash award. Good luck!

You can always see the Problem of the Week (and complete rules) online at:

`http://uwpmath.weebly.com/`