Toilet Paper Roll Drop Challenge

A roll of toilet paper is dropped from a height of 1.8 m. Another one is dropped at the same time but someone holds the end of the roll so that it unwinds as it falls. From what height should the unwinding roll be released from so that it hits the floor at the same time as the one dropped from 1.8m?

Show all of your work on your group’s whiteboard. Include sketches of the situation, free body diagrams, and relevant measurements, predicted height and results based on a slo-mo video of the test. Group(s) with the best whiteboard will win fabulous prizes. Try to do it without using the QR code hints below.



Hint 6

Hint 5

Hint 4

Hint 3

Hint 2

Hint 1