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January 2003
Regulars

Puzzle page

BOOKMARK

Gobbling Gorillas

A gorilla, of mass 100kg, is imprisoned inside a cage of mass 350kg, which is suspended in mid−air on a long rope thrown over a pulley. At the other end of the rope is a counterweight of mass 450kg, exactly balancing the combined weight of the cage and gorilla.

Attached to the roof of the cage, on the inside, is a delicious bunch of bananas, which the gorilla would love to eat. Unfortunately they're out of his reach, by 10cm. He decides to jump up into the air, just far enough to be able to grab the bananas, then fall back down to the cage floor.

How fast does he need to jump? Specifically, with what speed does the gorilla need to move away from the cage floor?

If you are stumped by last issue's puzzle, here is the solution.

For some challenging mathematical puzzles, see the NRICH puzzles from this month or last month.

Plus is part of the family of activities in the Millennium Mathematics Project, which also includes the NRICH and MOTIVATE sites.