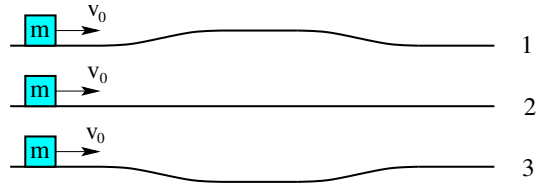


[mex205] The quick, the short, and the scenic

Consider three blocks of equal mass  $m$  sliding along frictionless tracks. Track 2 is strictly horizontal. Track 1 leads over a hill and track 3 through a valley. The blocks are simultaneously launched with equal initial velocity  $v_0$  at the positions shown. The curvatures in tracks 1 and 3 are sufficiently gentle for the blocks not to lift off. In what sequence do the blocks arrive at the end of their tracks? Justify your answers carefully.



**Solution:**