A rubber band with initial length $L$ has its left end tied to a wall. At $t = 0$ the right end is pulled away from the wall at constant speed $v$. At the same time, an ant located at the right end of the rubber band begins walking toward the left. The ant walks with speed $u$ relative to the rubber band. Does the ant necessarily reach the wall? If so, when? If, instead, the ant begins at the left end and walks toward the right, how long will it take him to reach the right end? Does your answer surprise you?

Check your answer at the undergraduate news blog:

www.physics.ncsu.edu/undergraduate/newsblog.php