

4. The accompanying data on  $y$  = ammonium concentration (mg/L) and  $x$  = transpiration (ml/h) was read from a graph in the article “Response of Ammonium Removal to Growth and Transpiration of *Juncus effusus* During the Treatment of Artificial Sewage in Laboratory-Scale Wetlands” (*Water Research*, 2013: 4265–4273). The article’s abstract stated “a linear correlation between the ammonium concentration inside the rhizosphere and the transpiration of the plant stocks implies that an influence of plant physiological activity on the efficiency of N-removal exists.” (The rhizosphere is the narrow region of soil at the plant root–soil interface, and transpiration is the process of water movement through a plant and its evaporation.) The article reported summary quantities from a simple linear regression analysis. Based on a scatterplot, how would you describe the relationship between the variables, and does simple linear regression appear to be an appropriate modeling strategy?

$x$	5.8	8.8	11.0	13.6	18.5	21.0	23.7
$y$	7.8	8.2	6.9	5.3	4.7	4.9	4.3
$x$	26.0	28.3	31.9	36.5	38.2	40.4	
$y$	2.7	2.8	1.8	1.9	1.1	.4	