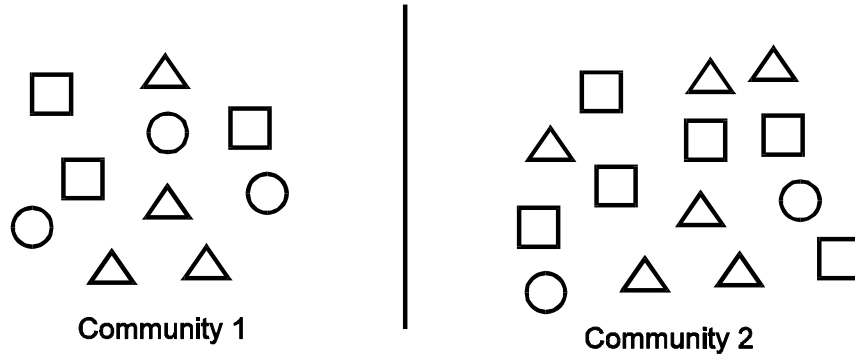


Biology 205 - Principles of Ecology  
 Dr. Kilburn  
 Shannon-Weiner diversity index sample problem

In the illustration, each shape represents a different species; each individual figure represents an individual organism. Using the table provided, calculate  $H'$  for both communities. Which has the greater diversity? Which has the greater species richness? Which has the greater species evenness?



Community 1				
Species	Number	Proportion ( $p_i$ )	$\log_e p_i$	$p_i \log_e p_i$
square	3	.30	-1.2039728	-0.361191841
circle	3	.30	-1.2039728	-0.361191841
triangle	4	.40	-0.91629073	-0.366516293
	10 total			<b><math>H' = 1.0888999753</math></b>
Community 2				
Species	Number	Proportion ( $p_i$ )	$\log_e p_i$	$p_i \log_e p_i$
square	6	0.42857142857	-0.84729786	-0.363127654
circle	2	0.14285714286	-1.94591015	-0.277987164
triangle	6	0.42857142857	-0.84729786	-0.363127654
	14 total			<b><math>H' = 1.0042424731</math></b>