Homework 2 - Errors

X	Y	Output 1	target 1	output 2	target 2	Data set
-1	-1	0	1	.6	1.0	
-1	1	1	1	-.3	0	
-1	-1	1	0	1.2	.5	
1	1	0	0	0	-.2	
L1		2		1.6		3.6
SSE		2		.78		2.78
MSE		.50		.20		.70
RMSE		.71		.45		1.16

Output 1   L1 $|1-0| + |1-1| + |0-1| + |0-0| = 1 + 0 + 1 + 0 = 2$

$L2 = (1-0)^2 + (1-1)^2 + (0-1)^2 + (0-0) = 1 + 0 + 1 + 0 = 2$

$MSE = \frac{2}{4} = .5$ $RMSE = \sqrt{.5} = .707 = .71$

output 2   L1 $|1-.6| + |0-(-.3)| + |.5-1.2| + |-.2-0| = .4 + .3 + |-.7| + |-.2| = 1.6$

$L2 \quad (.4)^2 + (.3)^2 + (-.7)^2 + (-.2)^2 = .78$

$MSE = \frac{.78}{4} = .195 = .20$ $RMSE = \sqrt{.20} = .447 = .45$

Dataset $\sum L1 = 2 + 1.6 = 3.6$ $\sum L2 = 2 + .78 = 2.78$

$\sum MSE = .5 + .2 = .70$ $\sum RMSE = .71 + .45 = 1.16$