2a. We would be interested in the absolute value of R over the raw value because a feature could be highly negatively correlated which still influences the outcome of the model.

Feature	R		Feature	R
f4	0.436922		f8	0.087773
f13	0.368269		f0	0.069795
f14	0.368224		f10	0.056876
f16	0.366025		f21	0.056605
f7	0.352141		f11	0.042117
f22	0.351350		f33	0.038810
f26	0.341043		f6	0.035295
f1	0.308811		f15	0.031478
f20	0.299049		f35	0.030855
f31	0.290783		f29	0.020829
f34	0.266093		f18	0.017931
f2	0.195732		f27	0.015606
f28	0.156904		f9	0.013005
f25	0.153096		f3	0.009214
f19	0.137636		f30	0.008955
f17	0.113945		f24	0.007780
f32	0.093174		f23	0.005508
			f12	0.002179
			f5	0.000098

2b.

M	Accuracy	M	Accuracy	M	Accuracy	M	Accuracy	M	Accuracy
20	0.950355	30	0.943262	32	0.938534	12	0.904255	7	0.861702
18	0.946809	22	0.943262	27	0.937352	11	0.901891	6	0.836879
31	0.945626	33	0.942080	25	0.936170	9	0.894799	5	0.834515
29	0.945626	28	0.942080	17	0.933806	14	0.891253	4	0.833333
23	0.945626	19	0.942080	35	0.931442	13	0.888889	3	0.822695
24	0.944444	26	0.940898	16	0.916076	10	0.885343	2	0.795508
34	0.943262	21	0.940898	15	0.908983	8	0.874704	1	0.722222

3ab.
```
['f14'] 0.7635933806146572
['f14', 'f10'] 0.8711583924349882
['f14', 'f10', 'f19'] 0.9030732860520094
['f14', 'f10', 'f19', 'f8'] 0.9361702127659575
['f14', 'f10', 'f19', 'f8', 'f7'] 0.9562647754137116
['f14', 'f10', 'f19', 'f8', 'f7', 'f25'] 0.958628841607565
['f14', 'f10', 'f19', 'f8', 'f7', 'f25', 'f1'] 0.9621749408983451
```

4a.
0.4^3 + 3*(0.6)*(0.4^2) = 0.352
1 - 0.352 = 0.648
4b.
0.4^5+5*(0.6)*(0.4^4)+10(0.6^2)(0.4^3) = 0.31744
1- 0.31744 = 0.683
4c.
0.922198936132927 (see python code in HW3-4.ipyb)
4d.
The assumption we made was that every model has equal accuracy and is independent from one another. In reality, there will be overlap in the information gain from each model, especially if trained on the same data set.
4e.
0.4574340777935757 (see python code in HW3-4.ipyb)