Comparative Analysis

In 1st question the three extra features which were used are :

1. Average of the two test results
2. Geometric mean of the two test results
3. Average of (1) and (2)

The accuracy of the GDA model was(on test data) : 71.43 %

In 2nd question the same features were used but from a new data set which was created by applying *box-muller* transformation within the range of the previous data set.
The accuracy of the GDA model was : 85.71 %

Parameters	Q1	Q2 (box-muller)
phi (Φ)	0.5060240963855422	0.49397590361445787
mu0 (μ_0)	[0.050976, 0.183071, 0.117023, 0.414866, 0.265944]	[0.150505, -0.018388, 0.066059, 0.649208, 0.357633]
mu1 (μ_1)	[0.056753, 0.173941, 0.115347, 0.314337, 0.214842]	[0.103502, -0.383659, -0.140078, 0.696880, 0.278401]
sigma (Σ)	[[0.224060 -0.016414 0.103823 0.015021 0.059422] [-0.016414 0.281560 0.132573 0.029305 0.080939] [0.103823 0.132573 0.118198 0.022163 0.070181] [0.015021 0.029305 0.022163 0.029718 0.025941] [0.059422 0.080939 0.070181 0.025941 0.048061]]	[[1.219834 0.072673 0.646254 0.140223 0.393238] [0.072673 0.852580 0.462627 -0.091265 0.185681] [0.646254 0.462627 0.554440 0.024479 0.289460] [0.140223 -0.091265 0.024479 0.197099 0.110789] [0.393238 0.185681 0.289460 0.110789 0.200124]]

	Q1	Q2 (box-muller)
confusion matrix	10 4 6 15	12 0 5 18
test accuracy	71.43 %	85.71 %