1987 Ford Mustang Engine Modification Results
(stock 225HP @ 4500RPM, 300ft-lbs @ 3000RPM)

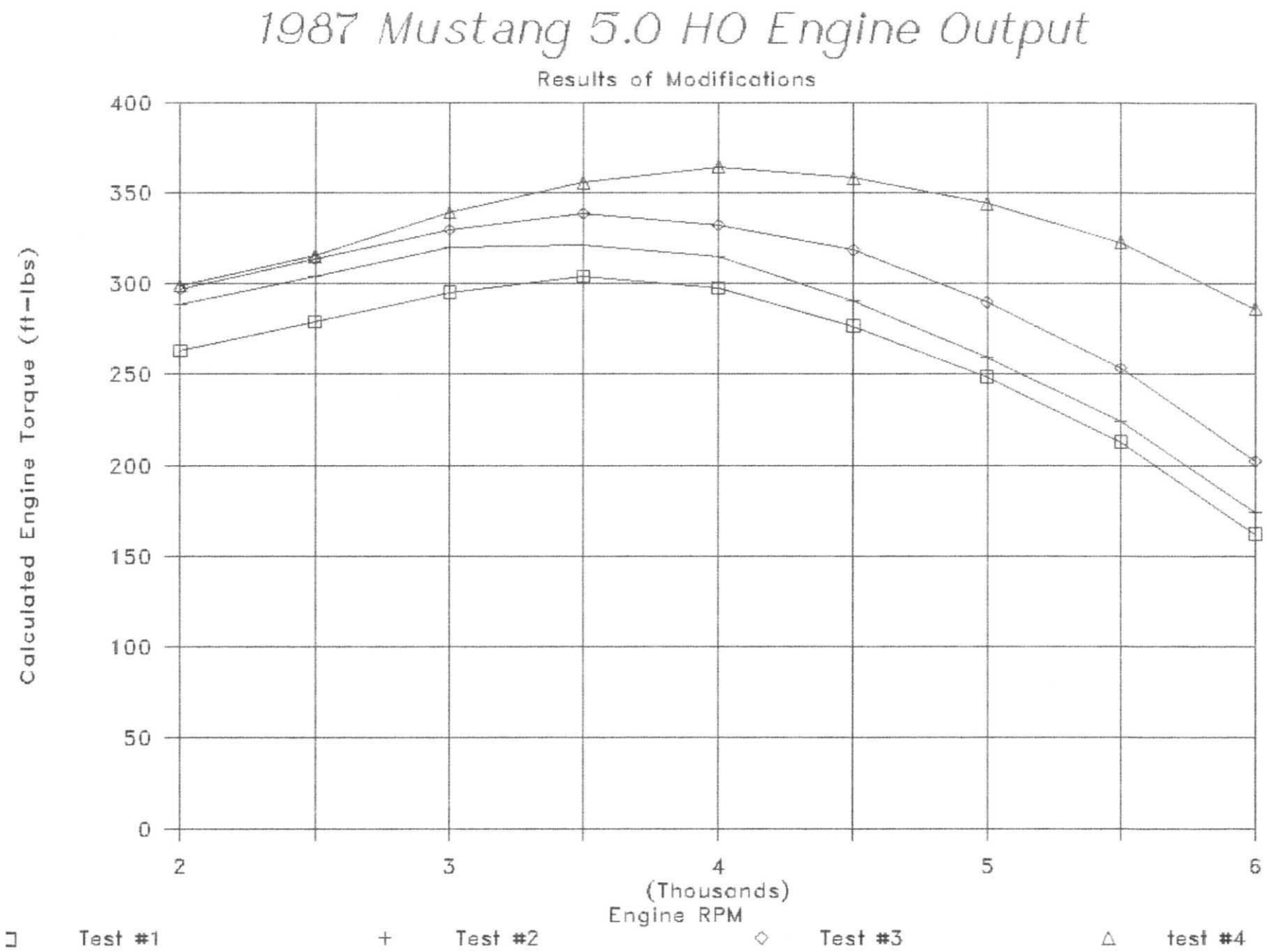
G-Analyst Measurements (2nd. gear acceleration)						Engine Torque Calculated (ft-lbs)					
RPM	loss comp	test #1	test #2	test #3	test #4	test #1	test #2	test #3	test #4	Tq 1->2	Tq 2->3
2000	0.0167	0.34	0.38	0.38	0.38	263	288	297	299	25	9
2500	0.0183	0.36	0.40	0.40	0.40	279	304	313	315	25	9
3000	0.0200	0.38	0.42	0.42	0.43	295	320	330	339	25	10
3500	0.0217	0.39	0.42	0.43	0.45	304	321	338	355	17	17
4000	0.0233	0.38	0.41	0.42	0.46	298	315	332	364	17	17
4500	0.0250	0.35	0.38	0.40	0.45	277	291	318	358	14	28
5000	0.0267	0.31	0.33	0.36	0.43	248	259	290	344	11	30
5500	0.0283	0.26	0.28	0.31	0.40	213	224	253	323	11	29
6000	0.0300	0.19	0.21	0.24	0.35	162	174	202	286	12	28
									Average	20	22

Notes:

- drivetrain losses estimated at 20%
- overall gearing in 2nd. calculated using 5.94 total trans gearing
  with 25.5" tall tires (5.94*24/25.5)=5.59
- acceleration loss for rolling friction: 0.02g @ 3000RPM, 0.03g @ 6000RPM in 2nd gear
- calibration variance 0.01g
- roll cal. set at 3.0, pitch cal. set at 1.7
- basic vehicle weight: 3000lbs, +170(driver) +50(low fuel) +150(full fuel) +100(metal & insul)

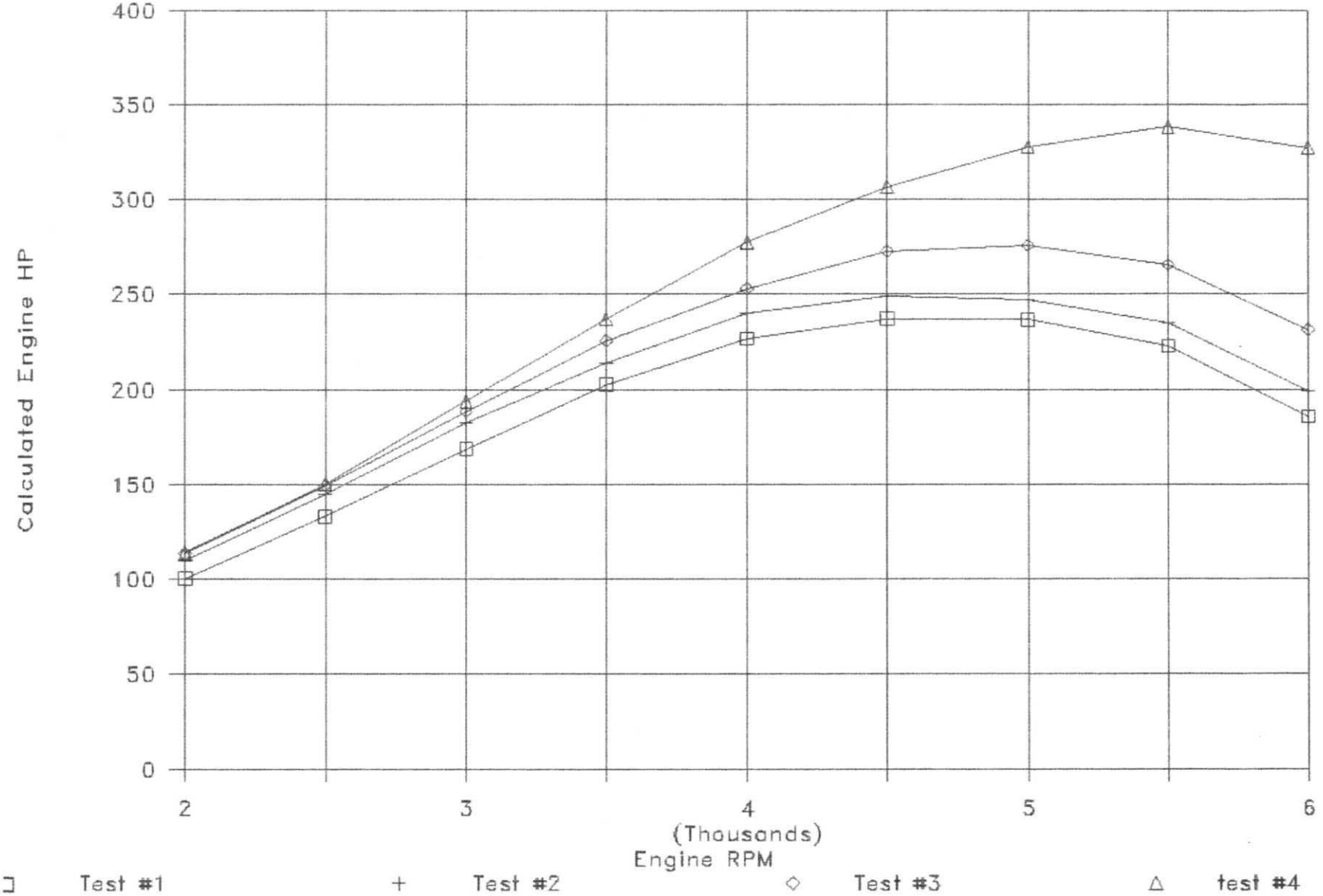
test #1 - June 1988, 20C, warm engine, 13 DBTC, air res. removed, 3300lbs
test #2 - Early September 1988, 20C, warm engine, cooling mods, EGR off, 3250lbs
test #3 - Late September 1988, 15C, warm engine, mufflers, insul, metal, 3350lbs
test #4 - Late January, 8C, warm engine, heads, intake and exhaust manifold, 3370lbs

Tq 3->4	----- HP calculated ----- test #1	test #2	test #3	test #4		HP 1->2	HP 2->3	HP 3->4
2	100	110	113	114		10	3	1
2	133	145	149	150		12	4	1
10	169	183	188	194		14	6	5
17	203	214	226	237		11	12	11
32	227	240	253	278		13	13	24
40	237	249	273	307		12	24	34
54	237	247	276	328		10	29	52
69	223	235	266	338		12	31	73
84	186	199	231	327		14	32	96
39					Average	13	19	37

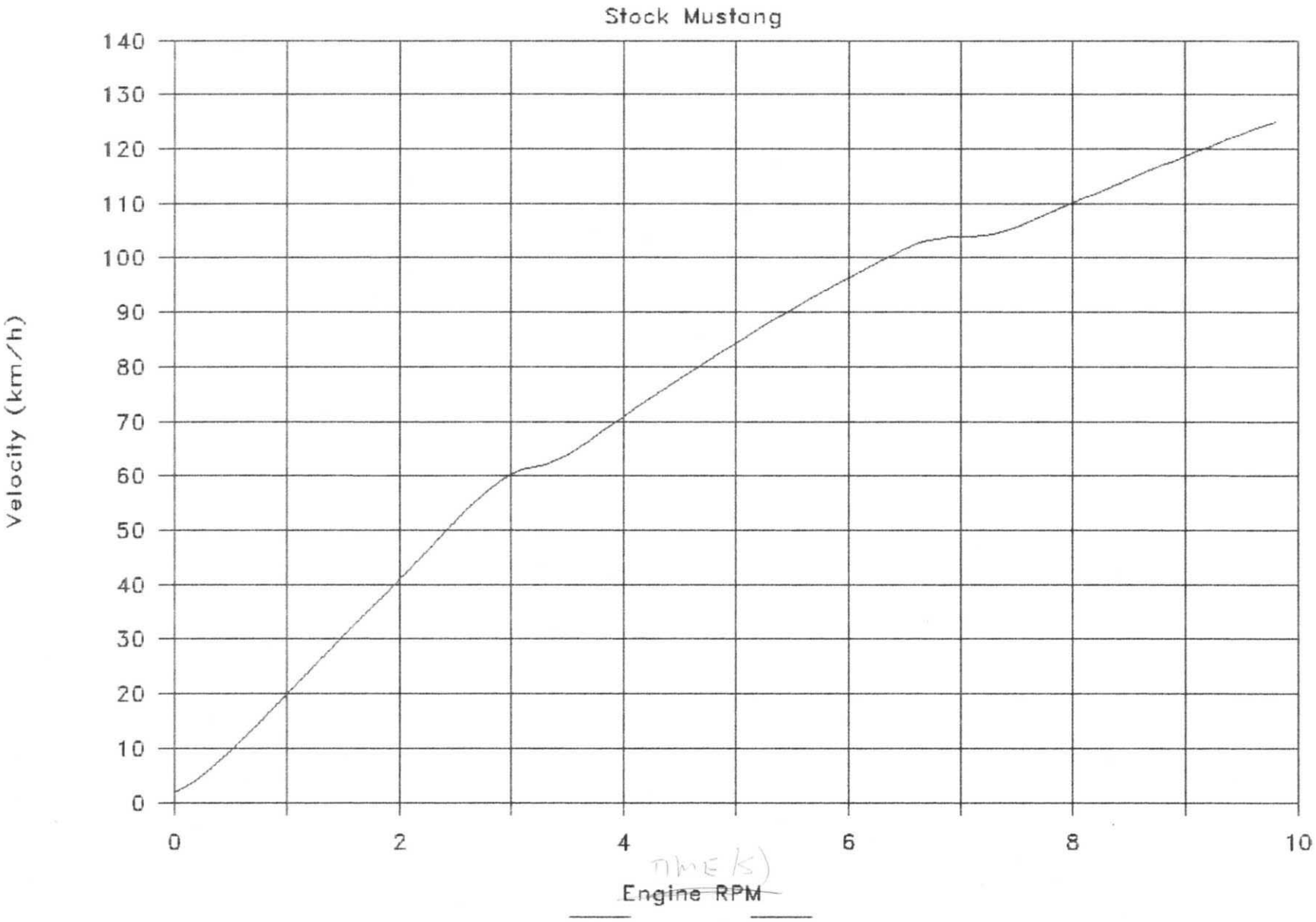

1987 Mustang 5.0 HO Engine Output
Results of Modifications
Calculated Engine Torque (ft-lbs)
400
350
300
250
200
150
100
50
0
2
3
4
5
6
(Thousands)
Engine RPM
Test #1
Test #2
Test #3
test #4

1987 Mustang 5.0 HO Engine Output

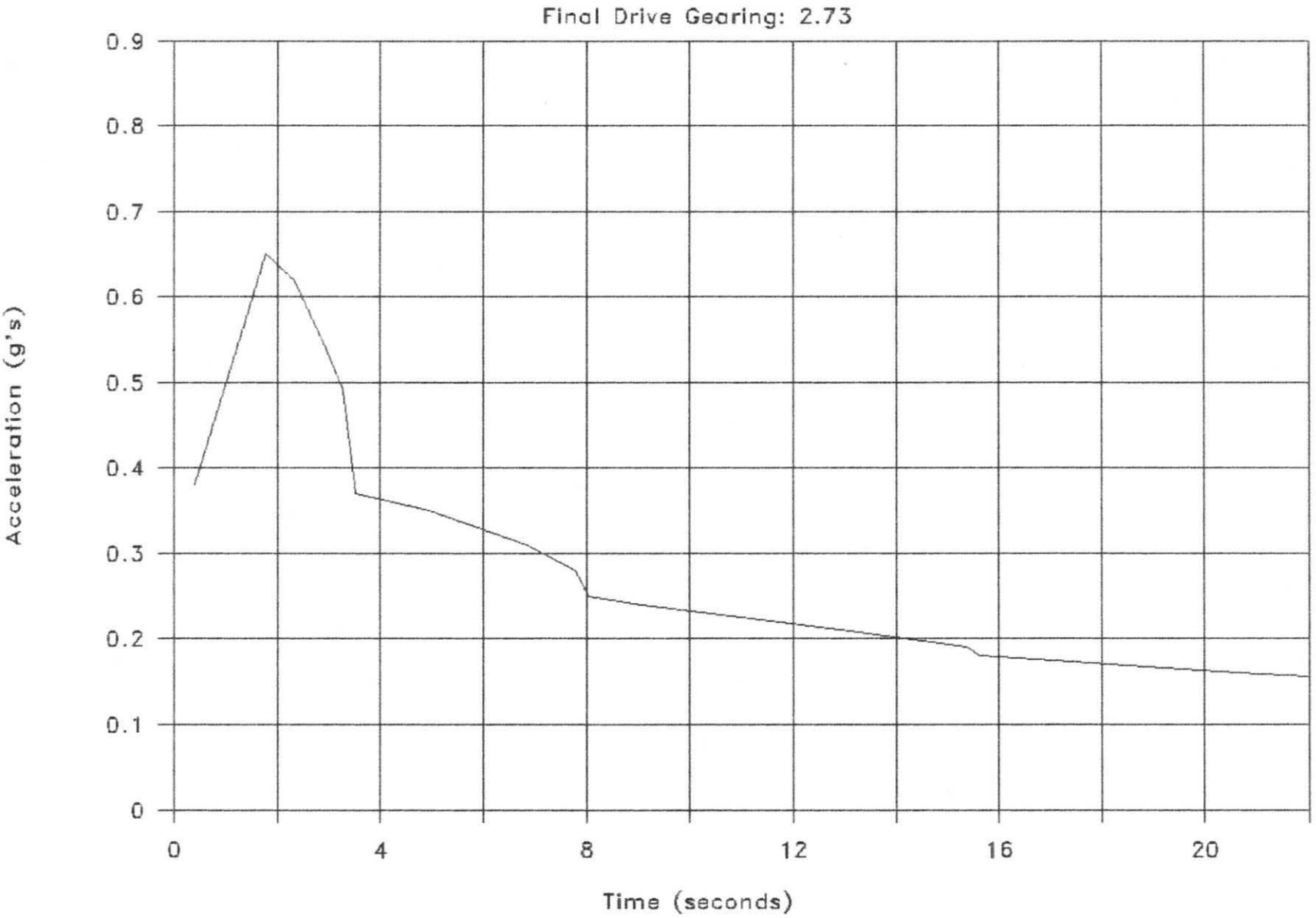
Results of Modifications



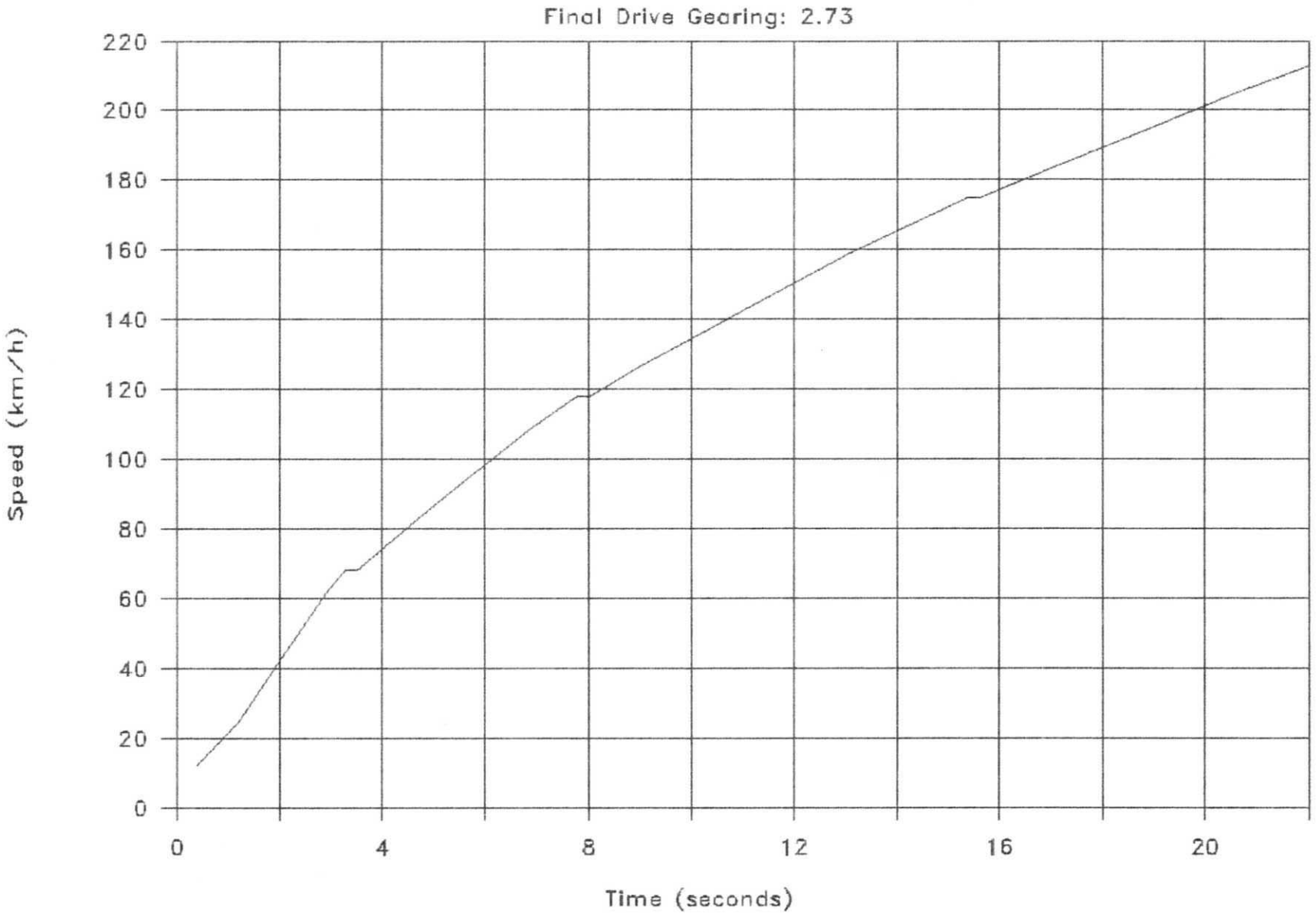
Acceleration Measurements



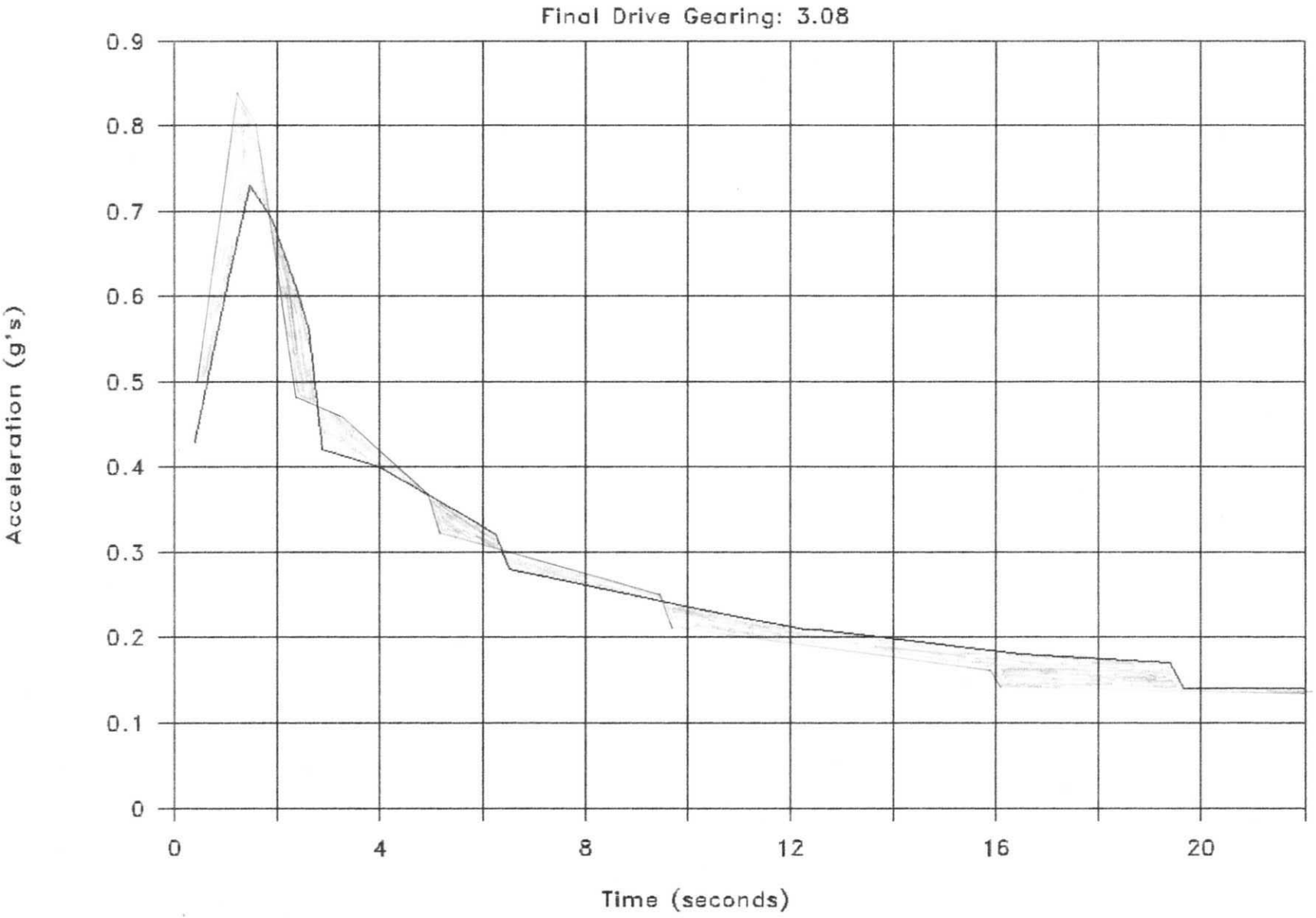
Vehicle Acceleration Calculation



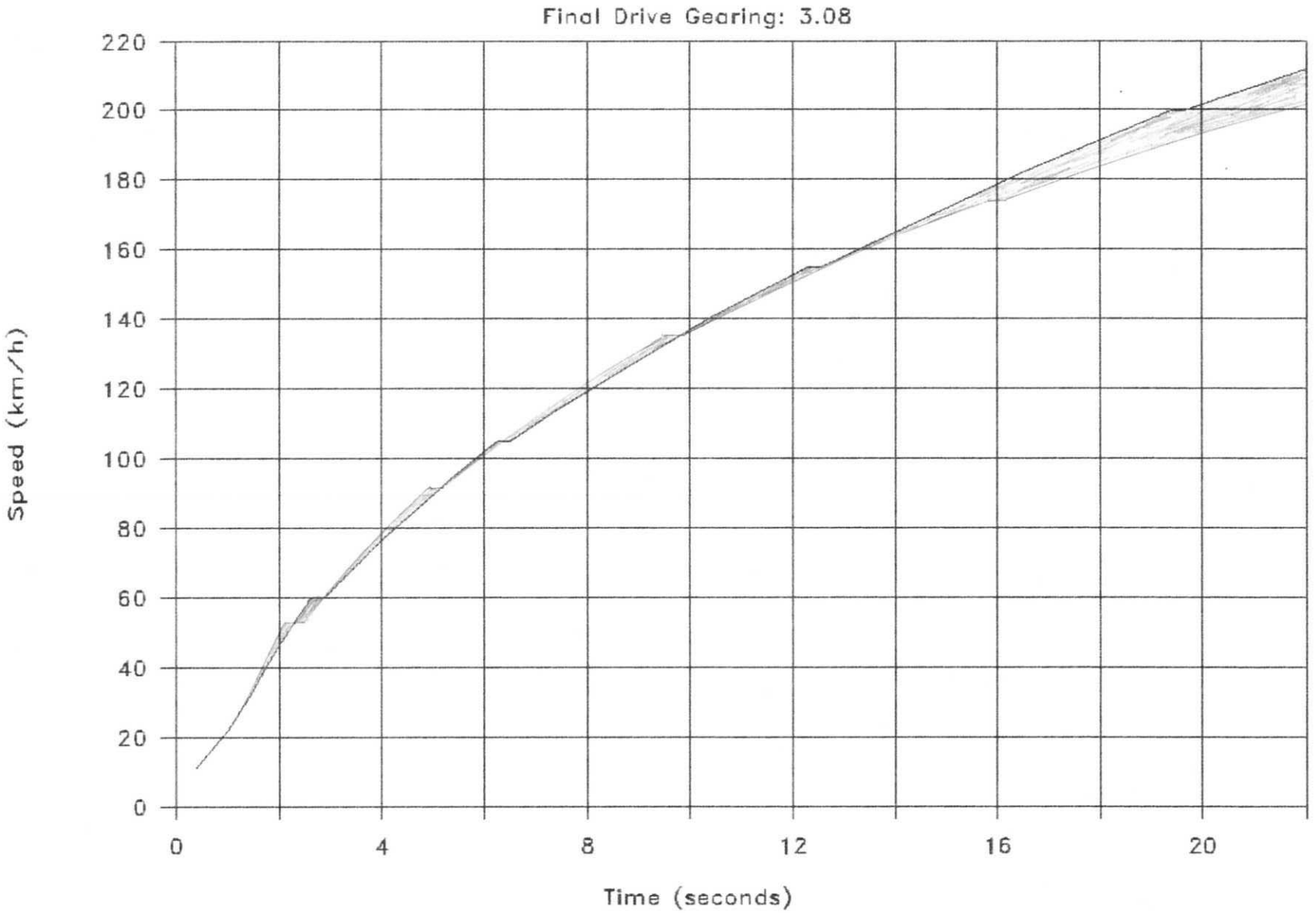
Vehicle Acceleration Calculation



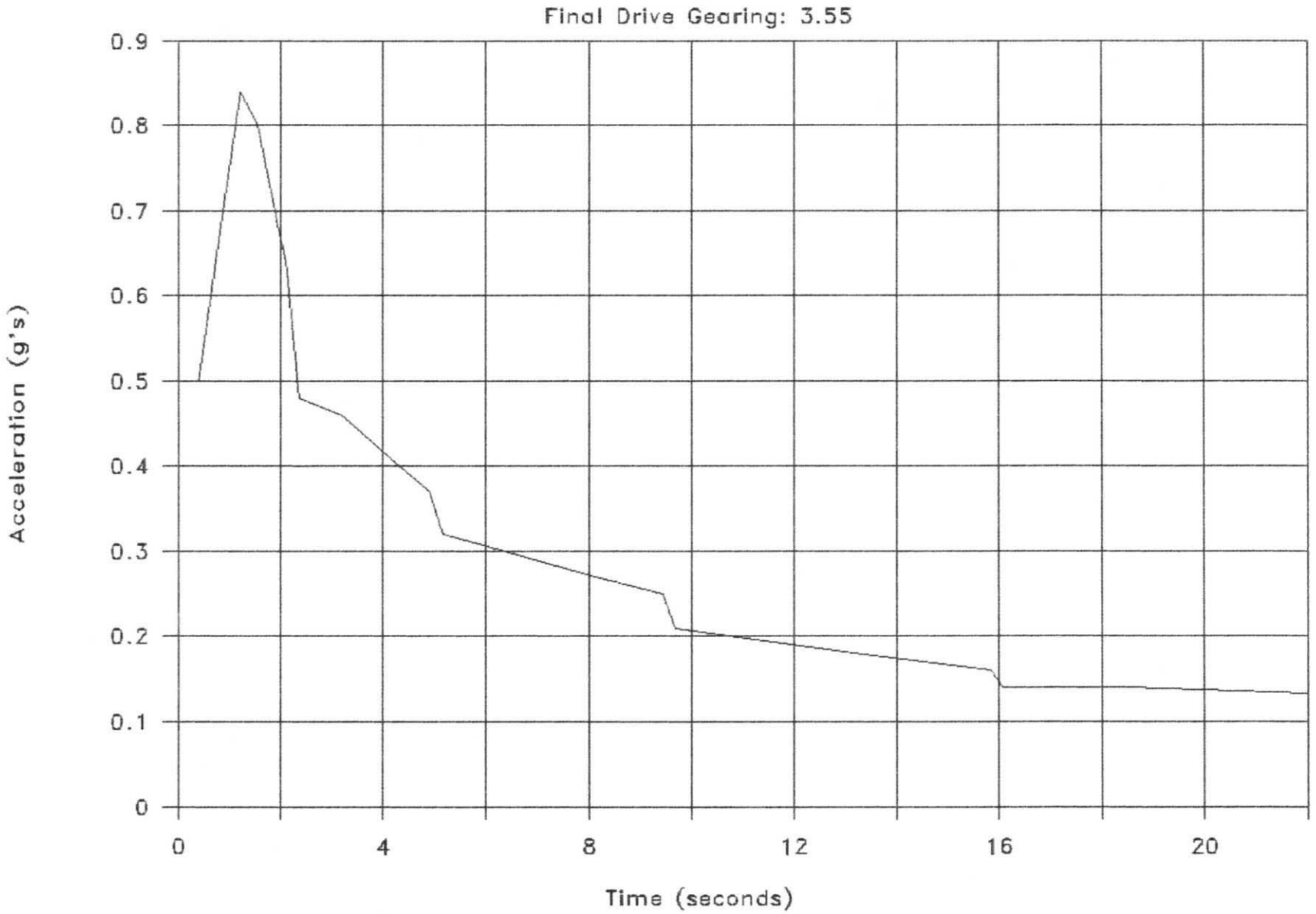
Vehicle Acceleration Calculation



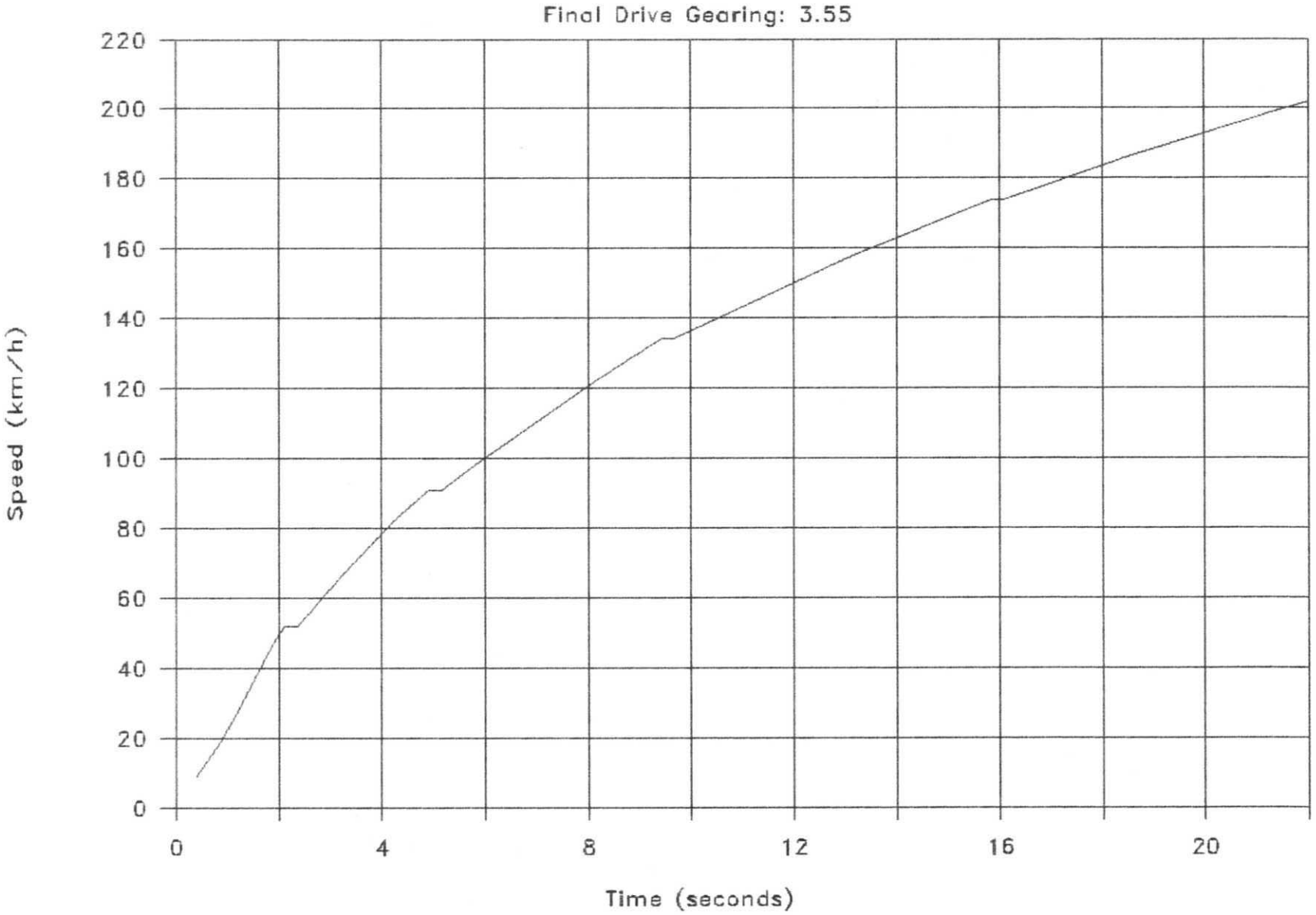
Vehicle Acceleration Calculation



Vehicle Acceleration Calculation

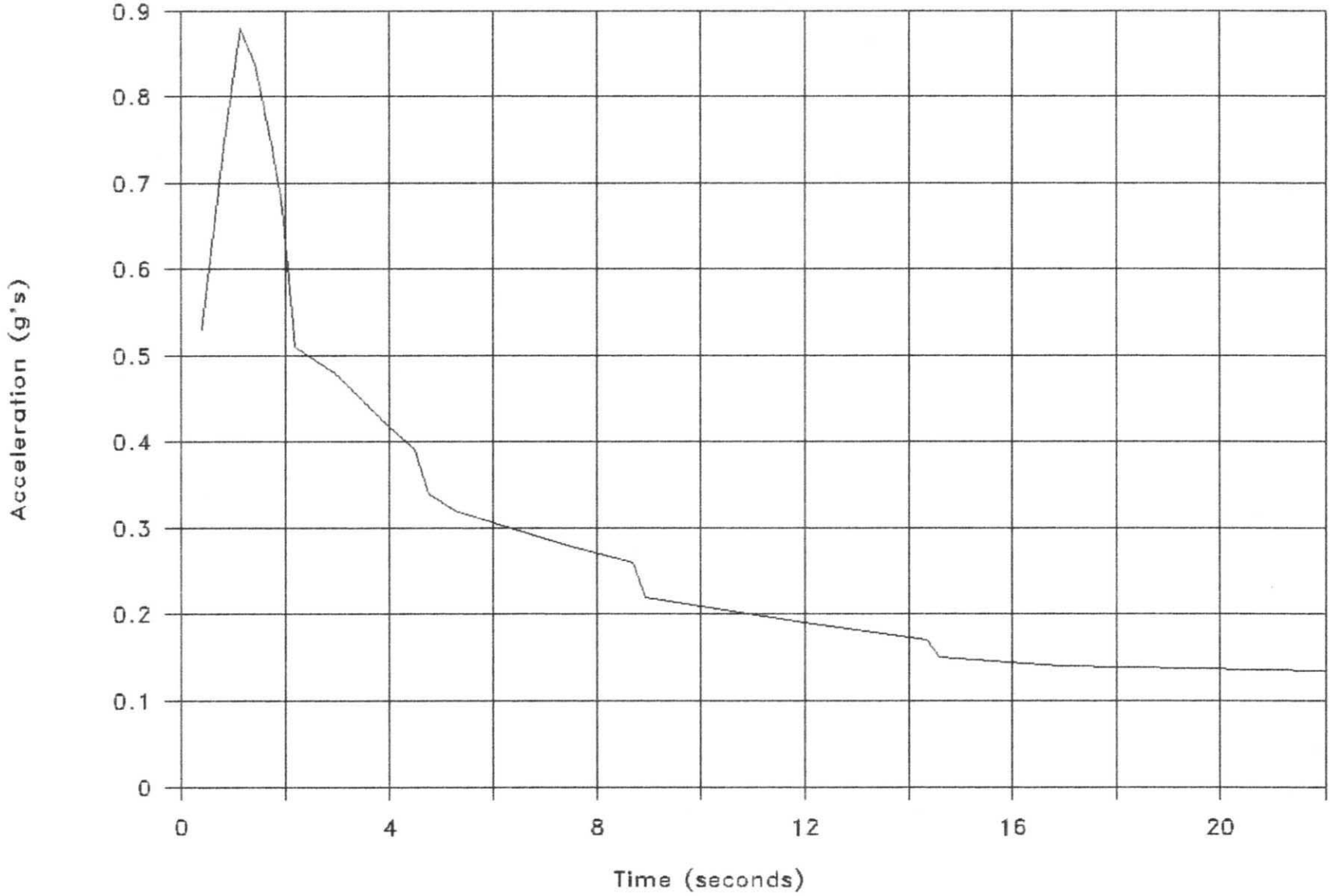


Vehicle Acceleration Calculation



Vehicle Acceleration Calculation

Final Drive Gearing: 3.73



Vehicle Acceleration Calculation