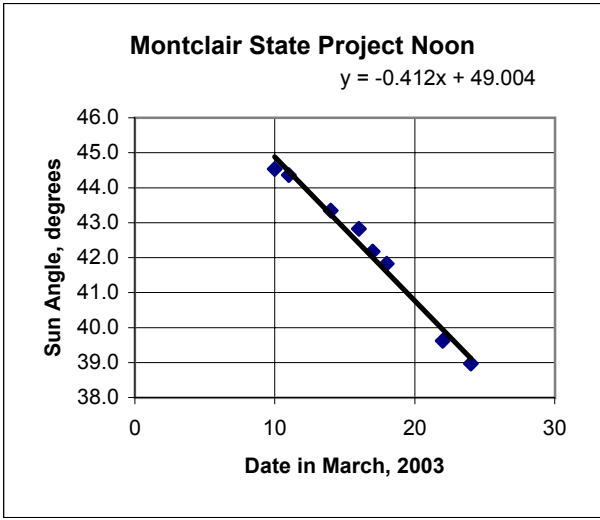
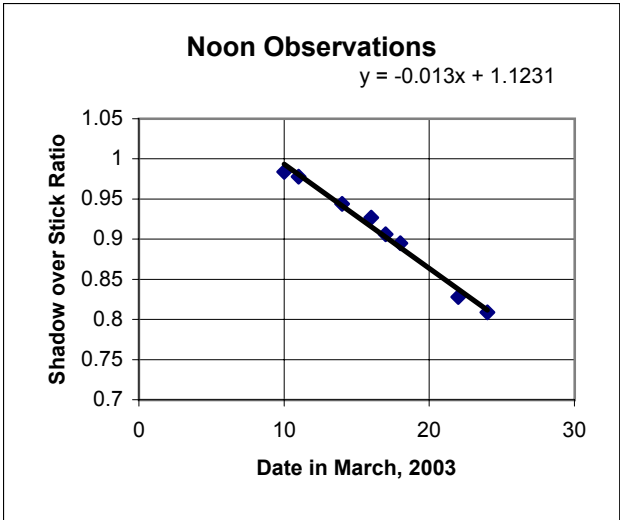


PROJECT NOON DATA
 Bill Phillian, Dr. M.L. West
 Montclair State University, NJ

Date in March, 2003	Shadow/ Stick Ratio	Sun Angle
10	0.984	44.5
11	0.978	44.4
14	0.944	43.3
16	0.927	42.8
17	0.906	42.2
18	0.895	41.8
22	0.828	39.6
24	0.809	39.0



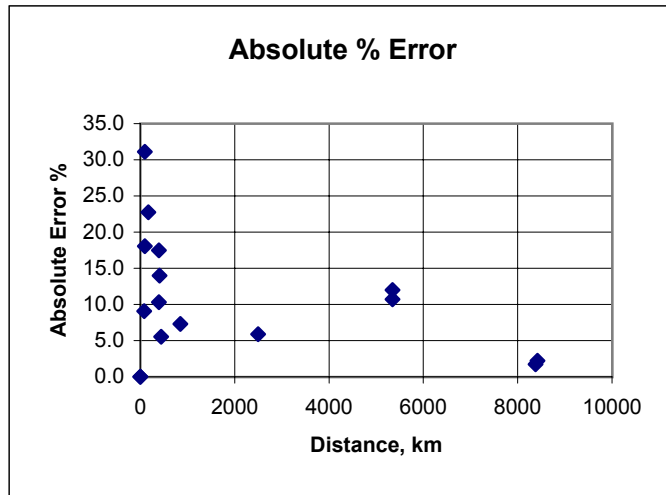
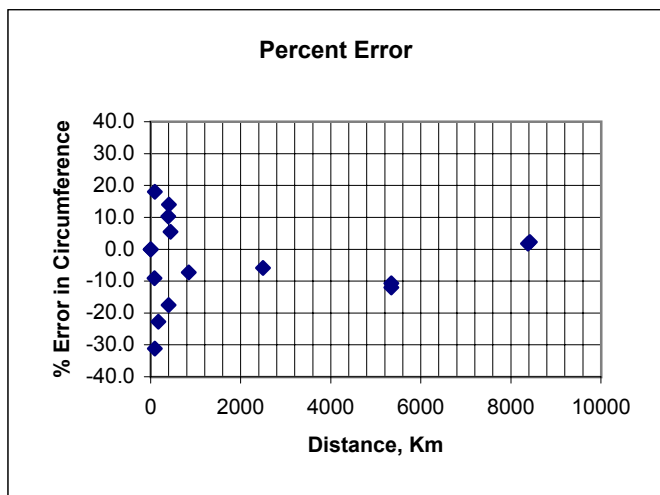
Accepted Value, Earth's Circumference:

40074 km

School Location	Latitude	Date	Sun	Dist	Dist	Circum	Circum	Error	Error	School
	Degrees		Angle	Miles	Km	Miles	km	%	Abs %	Type
MSU- Upper Montclair, NJ	40.846	18-Mar	41.8	0	0				0	COL
Skowhegan, Me	44.5	18-Mar	45	252	406	28350	45675	14.0	14.0	MS
Eastlake, OH	41.673	18-Mar	43	57	92	17100	27600	-31.1	31.1	MS
Jawa Timur, Indonesia	-7.25	18-Mar	13.74	3321	5344	21921	35274	-12.0	12.0	MS
MSU- Upper Montclair, NJ	40.846	20-Mar	40.8	0	0					COL
Christa, Saratoga, CA	37.29	20-Mar	36.5	246	395	20595	33070	-17.5	17.5	MS
Emerson, Bar Harbor, Me	44.38	20-Mar	44	244	393	27450	44213	10.3	10.3	MS
Offenburg, Germany	48.46	20-Mar	49	526	846		37141	-7.3	7.3	HS
Eastlake, OH	41.673	20-Mar	41.5	57	92	29314	47314	18.1	18.1	MS
Guaynabo, Puerto Rico	18.4	20-Mar	17	1550	2494	23445	37724	-5.9	5.9	HS
Jawa Timur, Indonesia	-7.25	20-Mar	12.96	3321	5344	22239	35786	-10.7	10.7	MS
MSU- Upper Montclair, NJ	40.846	24-Mar	39	0	0					COL
Bayside, Virginia Beach, VA	36.85	24-Mar	35.22	276	444	26286	42286	5.5	5.5	HS
Hamilton C, Adelaide, Australia	-34.93	24-Mar	35	5232	8420	25453	40962	2.2	2.2	COL
Marryatville, Adelaide, Australia	-34.56	24-Mar	35	5207	8379	25331	40763	1.7	1.7	HS
Champaign. IL	40.1	24-Mar	39.82	52	83	22829	36439	-9.1	9.1	HS
Clark, Chelsea, MA	42.39	24-Mar	41	107	172	19260	30960	-22.7	22.7	MS
Alice Deal, Washington, DC	38.95	24-Mar	38.9	131	211	471600	759600	1795.5	1795.5	MS

Average (except Alice Deal JHS)

38229 -4.6 4.6



School	Type	Abs % err
MSU- Upper Montclair, NJ	COL	0.0
Hamilton C, Adelaide, Australia	COL	2.2
Marryatville, Adelaide, Australia	HS	1.7
Bayside, Virginia Beach, VA	HS	5.5
Guaynabo, Puerto Rico	HS	5.9
Offenburg, Germany	HS	7.3
Champaign. IL	HS	9.1
Emerson, Bar Harbor, Me	MS	10.3
Jawa Timur, Indonesia	MS	10.7
Jawa Timur, Indonesia	MS	12.0
Skowhegan, Me	MS	14.0
Christa, Saratoga, CA	MS	17.5
Eastlake, OH	MS	18.1
Clark, Chelsea, MA	MS	22.7
Eastlake, OH	MS	31.1
Alice Deal, Washington, DC	MS	1795.5

Average	COL	1.1
Average	HS	5.9
Average	MS	17.0

