Mean Deviation about Mean
Grouped Data

Weight (grams)	Frequency (F)	X=(Mid Point)	F*X
65-84	9	74.5	670.5
85-104	10	94.5	945
105-124	17	114.5	1946.5
125-144	10	134.5	1345
145-164	5	154.5	772.5
165-184	4	174.5	698
185-204	5	194.5	972.5
Total	**60**		**7350**

Mean = ΣFx / ΣF

Mean = 122.5

Now first four Moments about Mean

	X=(Mid Point)	**Frequency (F)**	**$F*\lvert(X-122.5)^1\rvert$**	**$F*(X-122.5)^2\rvert$**	**$F*\lvert(X-122.5)^3\rvert$**	**$F*\lvert(X-122.5)^4\rvert$**
	74.5	9	432	20736	995328	47775744
	94.5	10	280	7840	219520	6146560
	114.5	17	136	1088	8704	69632
	134.5	10	120	1440	17280	207360
	154.5	5	160	5120	163840	5242880
	174.5	4	208	10816	562432	29246464
	194.5	5	360	25920	1866240	134369280
Sum		**60**	**1696**	**72960**	**3833344**	**223057920**

ΣF = 60

1st Moment about Mean	$\Sigma F*\lvert(X-122.5)^1\rvert / \Sigma F$ =	28.26666667
2nd Moment about Mean	$\Sigma F*\lvert(X-122.5)^2\rvert / \Sigma F$ =	1216
3rd Moment about Mean	$\Sigma F*\lvert(X-122.5)^3\rvert / \Sigma F$ =	63889.06667
4th Moment about Mean	$\Sigma F*\lvert(X-122.5)^4\rvert / \Sigma F$ =	3717632

Mean Deviation about Zero
Grouped Data

Weight (grams)	Frequency (F)	X=(Mid Point)	F*X
65-84	9	74.5	670.5
85-104	10	94.5	945
105-124	17	114.5	1946.5
125-144	10	134.5	1345
145-164	5	154.5	772.5
165-184	4	174.5	698
185-204	5	194.5	972.5
Total	**60**		**7350**

Now first four Moments about Mean

	X=(Mid Point)	**Frequency (F)**	**$F*\lvert(X-0)^1\rvert$**	**$F*(X-0)^2\rvert$**	**$F*\lvert(X-0)^3\rvert$**	**$F*\lvert(X-0)^4\rvert$**
	74.5	9	670.5	49952.25	3721442.625	277247475.6
	94.5	10	945	89302.5	8439086.25	797493650.6
	114.5	17	1946.5	222874.25	25519101.63	2921937136
	134.5	10	1345	180902.5	24331386.25	3272571451
	154.5	5	772.5	119351.25	18439768.13	2848944175
	174.5	4	698	121801	21254274.5	3708870900
	194.5	5	972.5	189151.25	36789918.13	7155639075
Sum		**60**	**7350**	**973335**	**138494977.5**	**20982703864**

ΣF = 60		
1st Moment about Mean	$\Sigma F*\lvert(X-0)^1\rvert / \Sigma F$ =	122.5
2nd Moment about Mean	$\Sigma F*\lvert(X-0)^2\rvert / \Sigma F$ =	16222.25
3rd Moment about Mean	$\Sigma F*\lvert(X-0)^3\rvert / \Sigma F$ =	2308249.625
4th Moment about Mean	$\Sigma F*\lvert(X-0)^4\rvert / \Sigma F$ =	349711731.1