Physical Measures
Correlation and Scatterplot for all the variables

Physical Measures
Correlation and Scatterplot for all the variables

The CORR Procedure

11 Variables:	Mass	Fore	Bicep	Chest	Neck	Shoulder	Waist	Height	Calf	Thigh	Head

Simple Statistics						
Variable	N	Mean	Std Dev	Median	Minimum	Maximum
Mass	22	73.93182	10.96346	73.00000	54.50000	94.00000
Fore	22	27.77273	1.91937	28.25000	24.00000	31.00000
Bicep	22	33.20455	2.90590	33.50000	28.50000	38.00000
Chest	22	99.63636	6.73332	99.50000	87.50000	112.00000
Neck	22	37.59091	1.83638	38.50000	35.00000	40.50000
Shoulder	22	111.81818	6.38366	113.50000	102.00000	121.00000
Waist	22	85.56818	7.79544	84.00000	74.00000	101.00000
Height	22	178.47727	6.19999	178.75000	168.50000	188.00000
Calf	22	37.34091	2.41713	38.00000	32.00000	42.00000
Thigh	22	49.72727	3.59473	49.75000	42.00000	57.50000
Head	22	58.06818	1.25637	58.00000	55.50000	60.00000

Pearson Correlation Coefficients, N = 22 Prob > |r| under H0: Rho=0											
	Mass	Fore	Bicep	Chest	Neck	Shoulder	Waist	Height	Calf	Thigh	Head
Mass	1.00000	0.89875 <.0001	0.72688 0.0001	0.77598 <.0001	0.80804 <.0001	0.85678 <.0001	0.91508 <.0001	0.49194 0.0200	0.83200 <.0001	0.84228 <.0001	0.24667 0.2684
Fore	0.89875 <.0001	1.00000	0.81341 <.0001	0.76707 <.0001	0.81337 <.0001	0.86703 <.0001	0.75775 <.0001	0.35368 0.1064	0.81296 <.0001	0.78773 <.0001	0.30294 0.1706
Bicep	0.72688 0.0001	0.81341 <.0001	1.00000	0.85518 <.0001	0.82401 <.0001	0.72023 0.0002	0.66520 0.0007	0.06569 0.7715	0.64213 0.0013	0.69737 0.0003	0.41990 0.0517
Chest	0.77598 <.0001	0.76707 <.0001	0.85518 <.0001	1.00000	0.82791 <.0001	0.79992 <.0001	0.71538 0.0002	0.20169 0.3681	0.64362 0.0012	0.78019 <.0001	0.43791 0.0415
Neck	0.80804 <.0001	0.81337 <.0001	0.82401 <.0001	0.82791 <.0001	1.00000	0.83116 <.0001	0.75298 <.0001	0.39125 0.0718	0.60954 0.0026	0.70546 0.0002	0.32226 0.1436
Shoulder	0.85678 <.0001	0.86703 <.0001	0.72023 0.0002	0.79992 <.0001	0.83116 <.0001	1.00000	0.74617 <.0001	0.48386 0.0225	0.68469 0.0004	0.68253 0.0005	0.22575 0.3124
Waist	0.91508 <.0001	0.75775 <.0001	0.66520 0.0007	0.71538 0.0002	0.75298 <.0001	0.74617 <.0001	1.00000	0.35128 0.1089	0.68926 0.0004	0.74032 <.0001	0.29974 0.1753
Height	0.49194 0.0200	0.35368 0.1064	0.06569 0.7715	0.20169 0.3681	0.39125 0.0718	0.48386 0.0225	0.35128 0.1089	1.00000	0.39773 0.0668	0.28601 0.1969	0.15762 0.4836
Calf	0.83200 <.0001	0.81296 <.0001	0.64213 0.0013	0.64362 0.0012	0.60954 0.0026	0.68469 0.0004	0.68926 0.0004	0.39773 0.0668	1.00000	0.74970 <.0001	0.27423 0.2168
Thigh	0.84228 <.0001	0.78773 <.0001	0.69737 0.0003	0.78019 <.0001	0.70546 0.0002	0.68253 0.0005	0.74032 <.0001	0.28601 0.1969	0.74970 <.0001	1.00000	0.23628 0.2898
Head	0.24667 0.2684	0.30294 0.1706	0.41990 0.0517	0.43791 0.0415	0.32226 0.1436	0.22575 0.3124	0.29974 0.1753	0.15762 0.4836	0.27423 0.2168	0.23628 0.2898	1.00000

Physical Measures
Correlation and Scatterplot for all the variables

The CORR Procedure

Spearman Correlation Coefficients, N = 22
Prob > |r| under H0: Rho=0

	Mass	Fore	Bicep	Chest	Neck	Shoulder	Waist	Height	Calf	Thigh	Head
Mass	1.00000	0.92432 <.0001	0.75461 <.0001	0.81787 <.0001	0.86623 <.0001	0.88360 <.0001	0.88839 <.0001	0.49293 0.0198	0.81879 <.0001	0.85968 <.0001	0.35838 0.1015
Fore	0.92432 <.0001	1.00000	0.80554 <.0001	0.78516 <.0001	0.83904 <.0001	0.90483 <.0001	0.75485 <.0001	0.37593 0.0847	0.76210 <.0001	0.77857 <.0001	0.33296 0.1300
Bicep	0.75461 <.0001	0.80554 <.0001	1.00000	0.87305 <.0001	0.81631 <.0001	0.71226 0.0002	0.60687 0.0027	0.05554 0.8061	0.66021 0.0008	0.68084 0.0005	0.45726 0.0324
Chest	0.81787 <.0001	0.78516 <.0001	0.87305 <.0001	1.00000	0.84596 <.0001	0.80317 <.0001	0.69688 0.0003	0.22681 0.3101	0.67398 0.0006	0.79962 <.0001	0.50907 0.0155
Neck	0.86623 <.0001	0.83904 <.0001	0.81631 <.0001	0.84596 <.0001	1.00000	0.82629 <.0001	0.78476 <.0001	0.35031 0.1100	0.62211 0.0020	0.78974 <.0001	0.30442 0.1684
Shoulder	0.88360 <.0001	0.90483 <.0001	0.71226 0.0002	0.80317 <.0001	0.82629 <.0001	1.00000	0.74128 <.0001	0.49958 0.0179	0.71454 0.0002	0.76768 <.0001	0.27942 0.2079
Waist	0.88839 <.0001	0.75485 <.0001	0.60687 0.0027	0.69688 0.0003	0.78476 <.0001	0.74128 <.0001	1.00000	0.44759 0.0367	0.64036 0.0013	0.76277 <.0001	0.36329 0.0965
Height	0.49293 0.0198	0.37593 0.0847	0.05554 0.8061	0.22681 0.3101	0.35031 0.1100	0.49958 0.0179	0.44759 0.0367	1.00000	0.34481 0.1161	0.28751 0.1945	0.19681 0.3800
Calf	0.81879 <.0001	0.76210 <.0001	0.66021 0.0008	0.67398 0.0006	0.62211 0.0020	0.71454 0.0002	0.64036 0.0013	0.34481 0.1161	1.00000	0.77005 <.0001	0.29770 0.1784
Thigh	0.85968 <.0001	0.77857 <.0001	0.68084 0.0005	0.79962 <.0001	0.78974 <.0001	0.76768 <.0001	0.76277 <.0001	0.28751 0.1945	0.77005 <.0001	1.00000	0.26356 0.2360
Head	0.35838 0.1015	0.33296 0.1300	0.45726 0.0324	0.50907 0.0155	0.30442 0.1684	0.27942 0.2079	0.36329 0.0965	0.19681 0.3800	0.29770 0.1784	0.26356 0.2360	1.00000

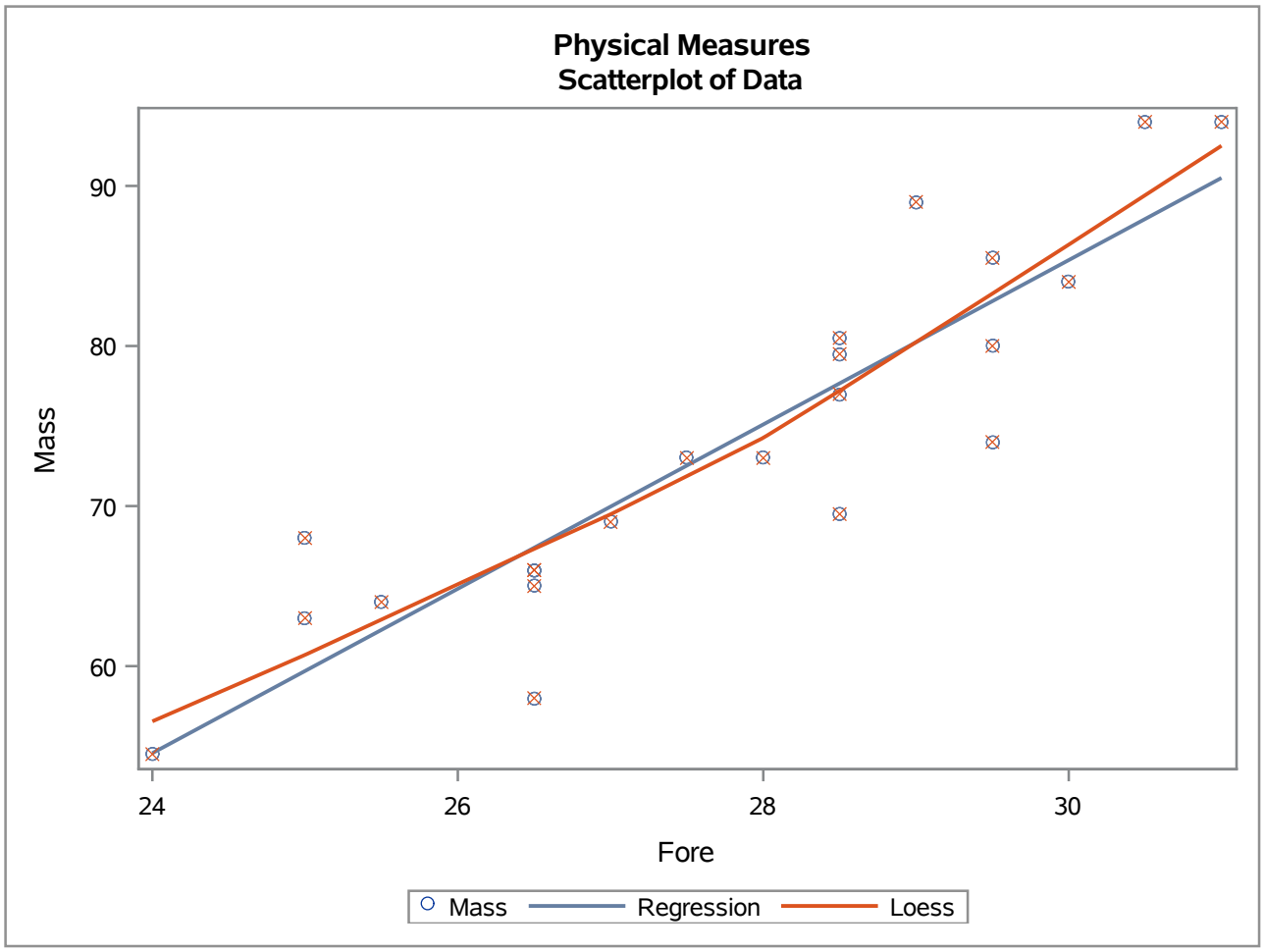
Kendall Tau b Correlation Coefficients, N = 22
Prob > |tau| under H0: Tau=0

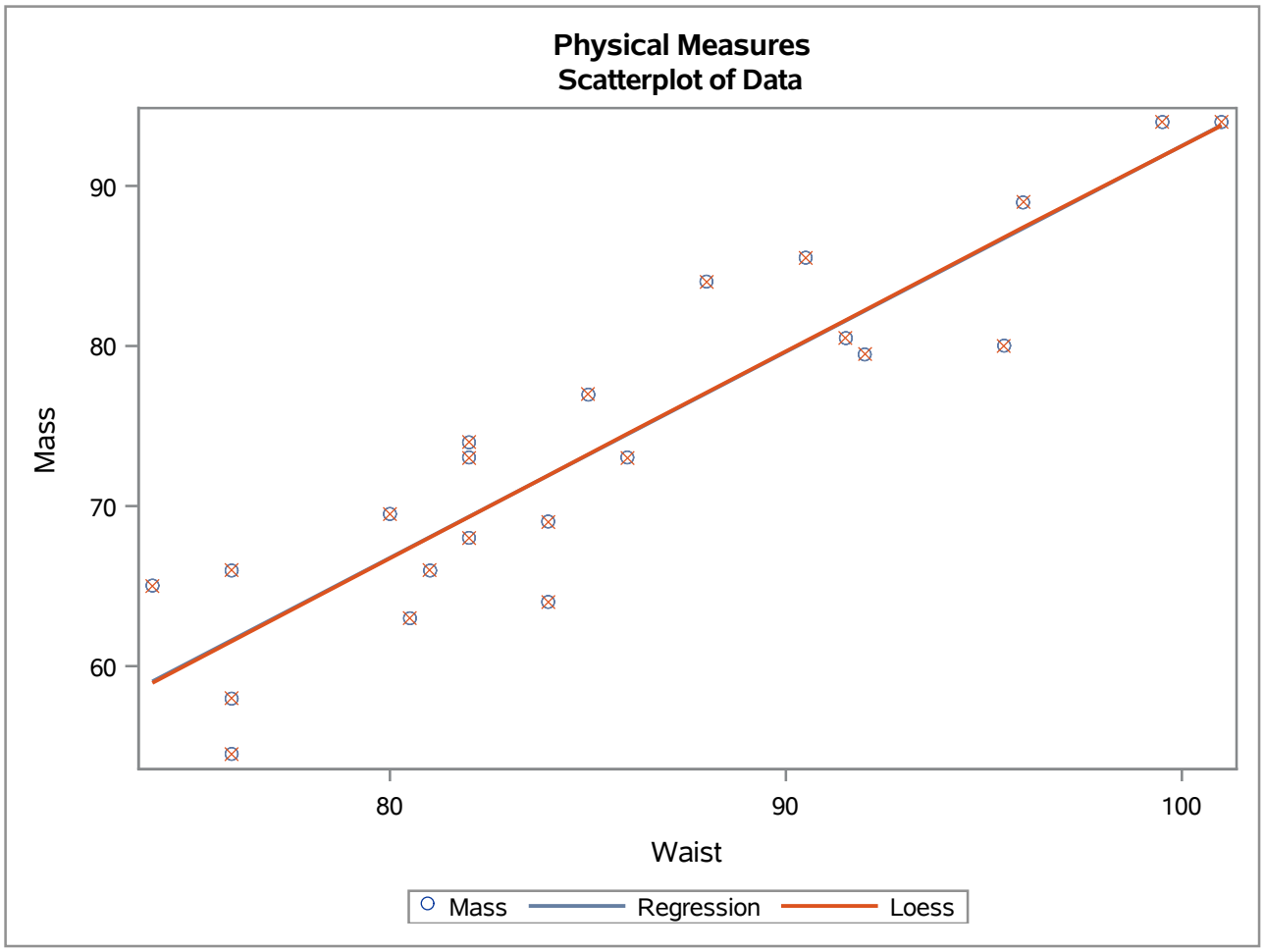
	Mass	Fore	Bicep	Chest	Neck	Shoulder	Waist	Height	Calf	Thigh	Head
Mass	1.00000	0.79944 <.0001	0.56449 0.0003	0.62719 <.0001	0.70846 <.0001	0.73012 <.0001	0.73897 <.0001	0.34649 0.0256	0.65638 <.0001	0.68493 <.0001	0.26030 0.1080
Fore	0.79944 <.0001	1.00000	0.63166 <.0001	0.59168 0.0002	0.68060 <.0001	0.77921 <.0001	0.58782 0.0002	0.28906 0.0683	0.62038 0.0001	0.63109 <.0001	0.25848 0.1185
Bicep	0.56449 0.0003	0.63166 <.0001	1.00000	0.71562 <.0001	0.66015 <.0001	0.51570 0.0011	0.47086 0.0029	0.04889 0.7552	0.50573 0.0015	0.52060 0.0011	0.32974 0.0440
Chest	0.62719 <.0001	0.59168 0.0002	0.71562 <.0001	1.00000	0.70371 <.0001	0.61507 <.0001	0.55312 0.0004	0.14474 0.3510	0.51701 0.0011	0.63537 <.0001	0.35791 0.0271
Neck	0.70846 <.0001	0.68060 <.0001	0.66015 <.0001	0.70371 <.0001	1.00000	0.65240 <.0001	0.64760 <.0001	0.26151 0.1104	0.48251 0.0038	0.62529 0.0002	0.22676 0.1851
Shoulder	0.73012 <.0001	0.77921 <.0001	0.51570 0.0011	0.61507 <.0001	0.65240 <.0001	1.00000	0.60268 0.0001	0.34957 0.0253	0.56243 0.0004	0.59101 0.0002	0.21572 0.1859
Waist	0.73897 <.0001	0.58782 0.0002	0.47086 0.0029	0.55312 0.0004	0.64760 <.0001	0.60268 0.0001	1.00000	0.29647 0.0577	0.46718 0.0033	0.59101 0.0002	0.25323 0.1204
Height	0.34649 0.0256	0.28906 0.0683	0.04889 0.7552	0.14474 0.3510	0.26151 0.1104	0.34957 0.0253	0.29647 0.0577	1.00000	0.25176 0.1109	0.22080 0.1628	0.17663 0.2754
Calf	0.65638 <.0001	0.62038 0.0001	0.50573 0.0015	0.51701 0.0011	0.48251 0.0038	0.56243 0.0004	0.46718 0.0033	0.25176 0.1109	1.00000	0.64203 <.0001	0.24299 0.1405

Physical Measures
Correlation and Scatterplot for all the variables

The CORR Procedure

Kendall Tau b Correlation Coefficients, N = 22 Prob > |tau| under H0: Tau=0											
	Mass	**Fore**	**Bicep**	**Chest**	**Neck**	**Shoulder**	**Waist**	**Height**	**Calf**	**Thigh**	**Head**
Thigh	0.68493 <.0001	0.63109 <.0001	0.52060 0.0011	0.63537 <.0001	0.62529 0.0002	0.59101 0.0002	0.59101 0.0002	0.22080 0.1628	0.64203 <.0001	1.00000	0.18147 0.2718
Head	0.26030 0.1080	0.25848 0.1185	0.32974 0.0440	0.35791 0.0271	0.22676 0.1851	0.21572 0.1859	0.25323 0.1204	0.17663 0.2754	0.24299 0.1405	0.18147 0.2718	1.00000


Physical Measures
Scatterplot of Data
Mass
90
80
70
60
24
26
28
30
Fore
Mass
Regression
Loess


Physical Measures
Scatterplot of Data
Mass
90
80
70
60
80
90
100
Waist
Mass
Regression
Loess

Physical Measures
Linear Regression

The REG Procedure
Model: MODEL1
Dependent Variable: Mass

Number of Observations Read	22
Number of Observations Used	22

Analysis of Variance

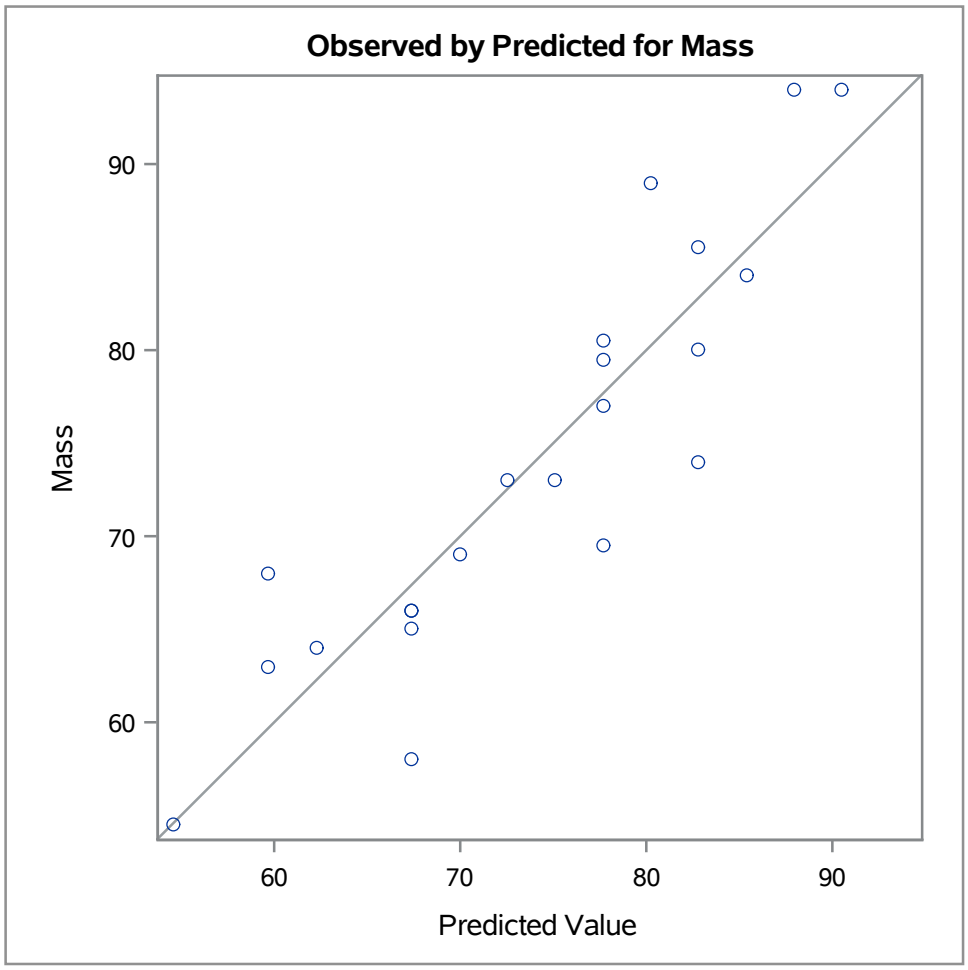
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	2038.88223	2038.88223	84.03	<.0001
Error	20	485.26550	24.26327		
Corrected Total	21	2524.14773			

Root MSE	4.92578	**R-Square**	0.8078
Dependent Mean	73.93182	**Adj R-Sq**	0.7981
Coeff Var	6.66259		

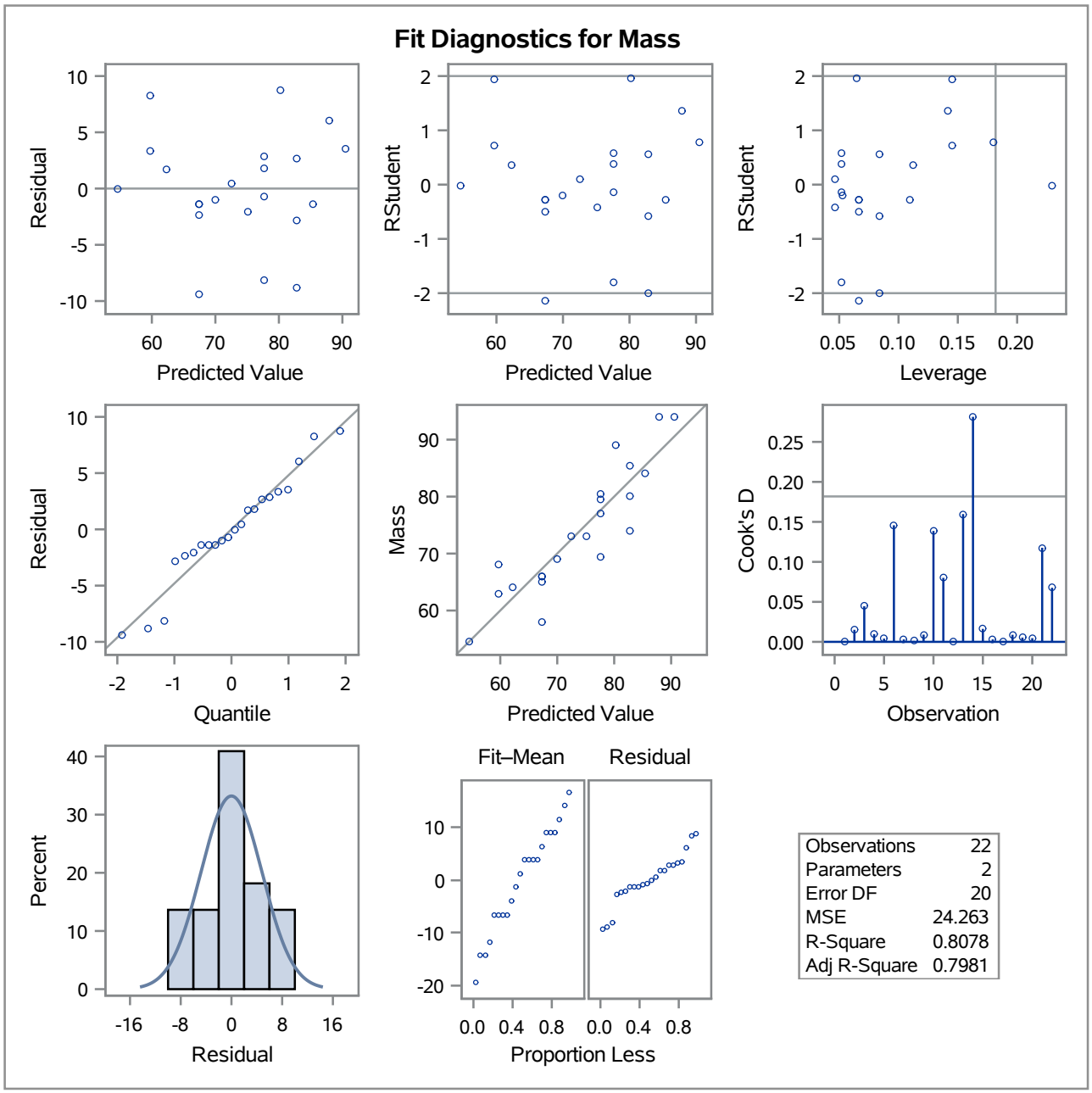
Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-68.64410	15.58879	-4.40	0.0003
Fore	1	5.13367	0.56002	9.17	<.0001

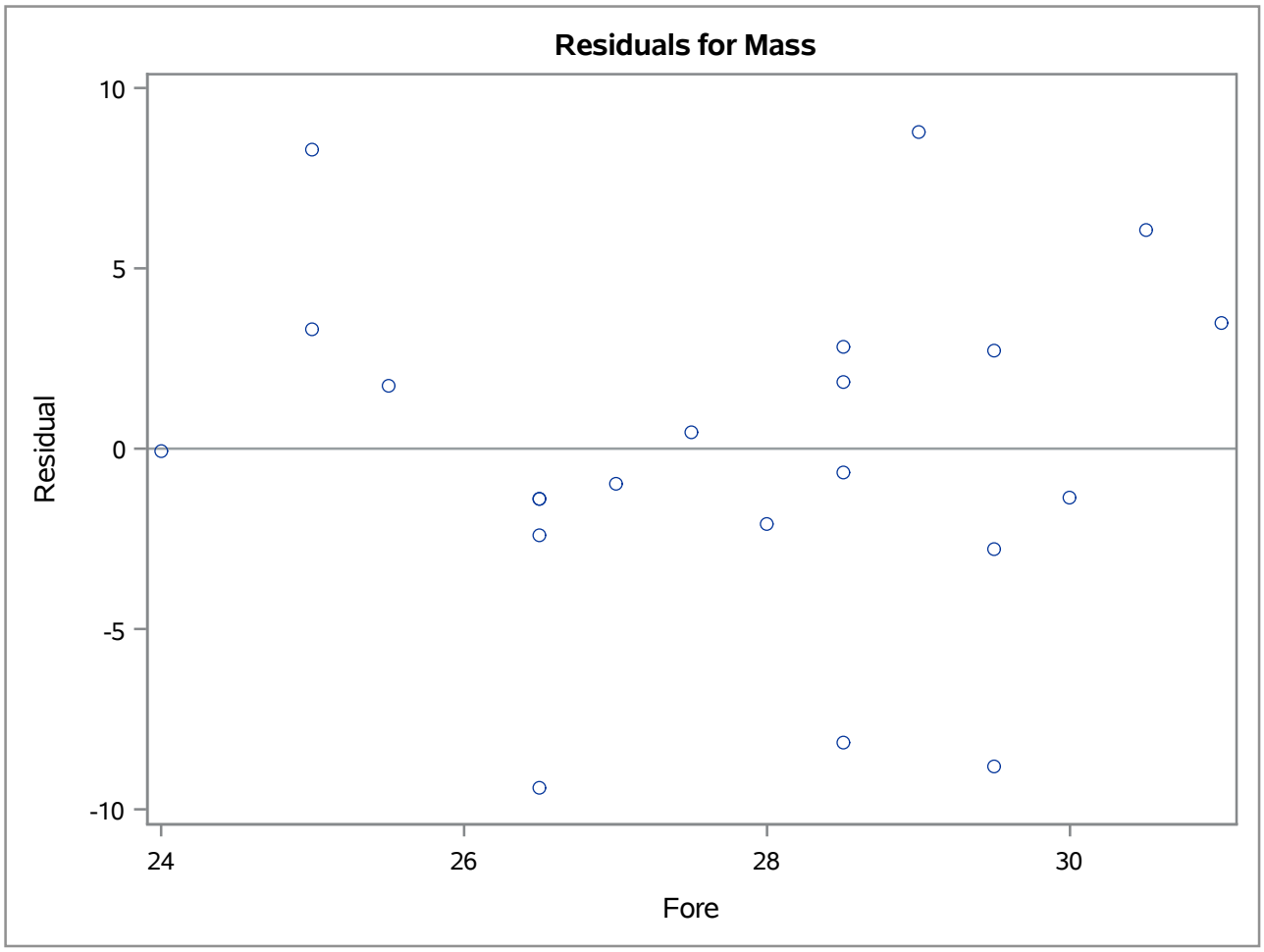
The REG Procedure
Model: MODEL1
Dependent Variable: Mass



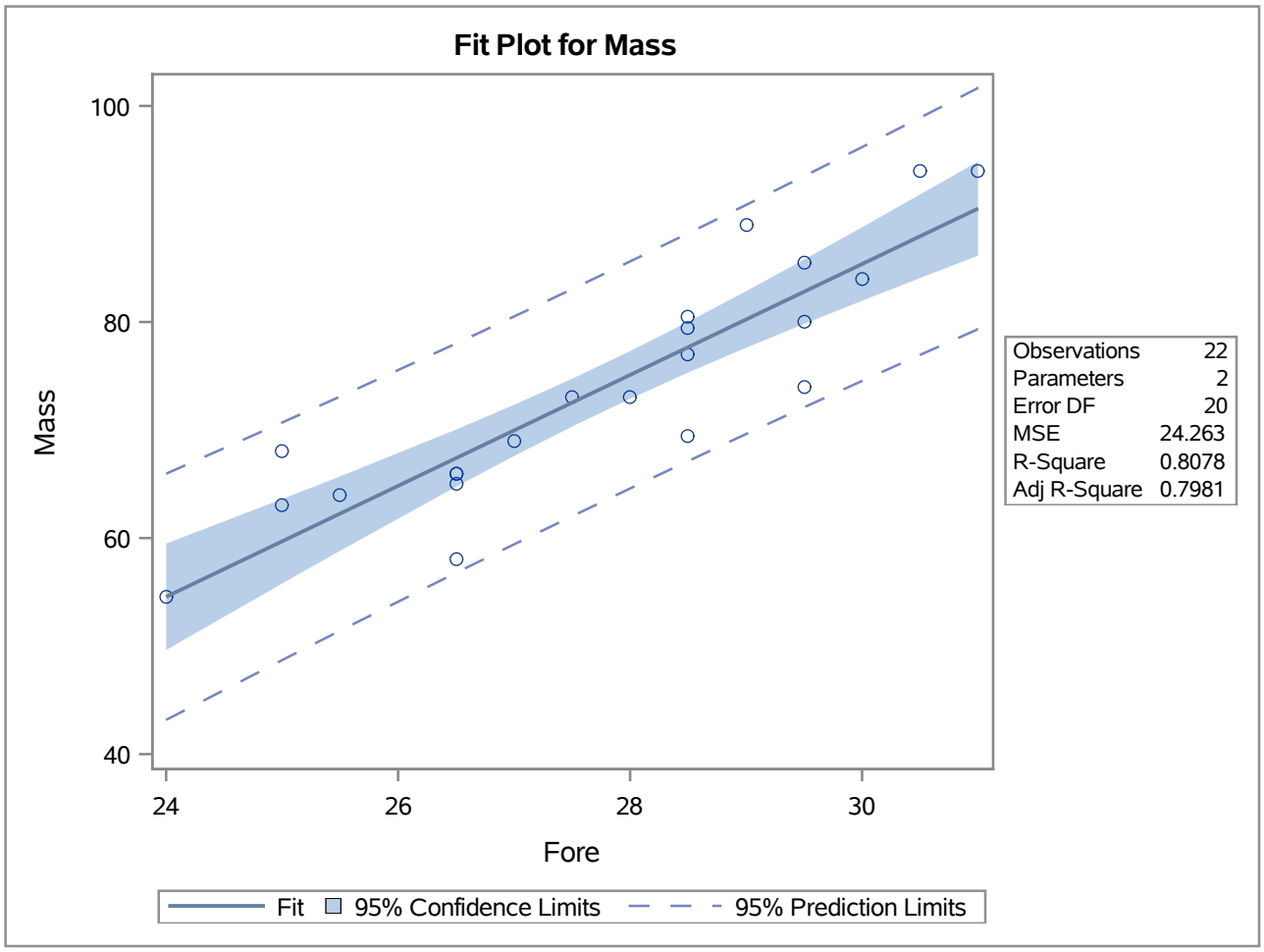
The REG Procedure
Model: MODEL1
Dependent Variable: Mass



The REG Procedure
Model: MODEL1
Dependent Variable: Mass



The REG Procedure
Model: MODEL1
Dependent Variable: Mass



The REG Procedure
Model: MODEL1
Dependent Variable: Mass

Number of Observations Read	22
Number of Observations Used	22

Analysis of Variance

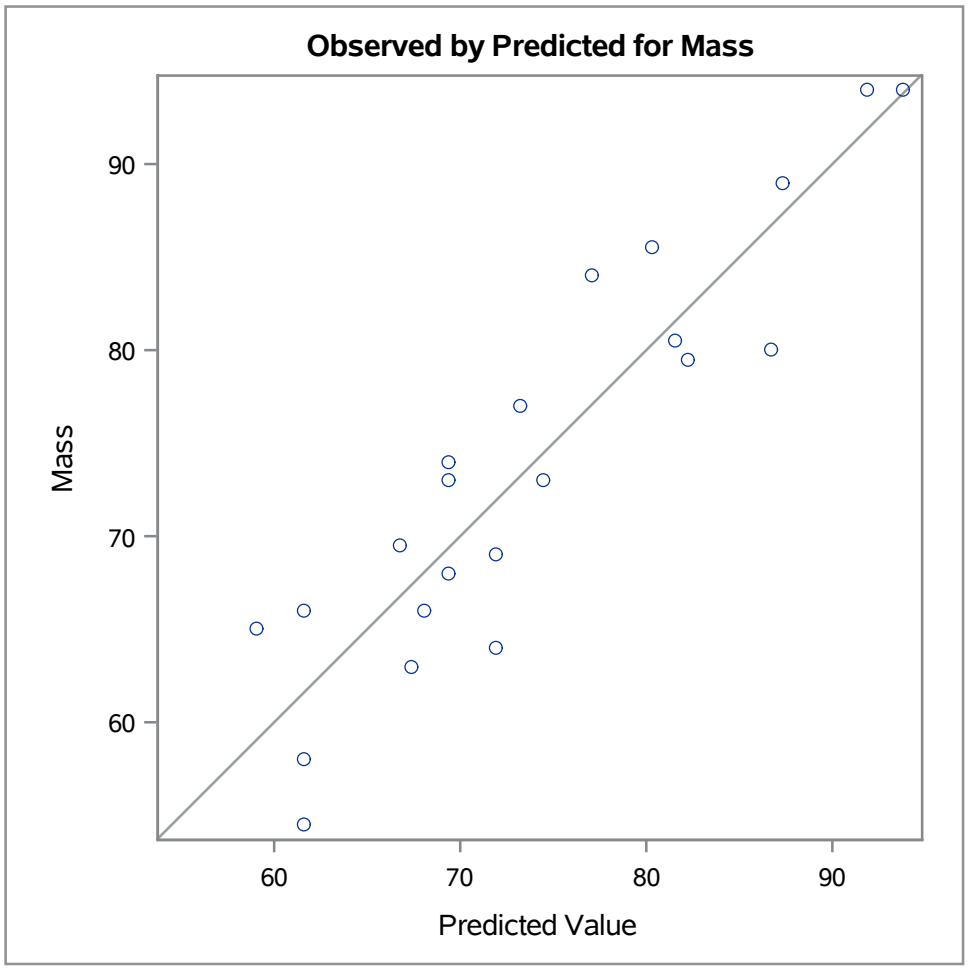
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	2113.64322	2113.64322	102.98	<.0001
Error	20	410.50451	20.52523		
Corrected Total	21	2524.14773			

Root MSE	4.53048	**R-Square**	0.8374
Dependent Mean	73.93182	**Adj R-Sq**	0.8292
Coeff Var	6.12791		

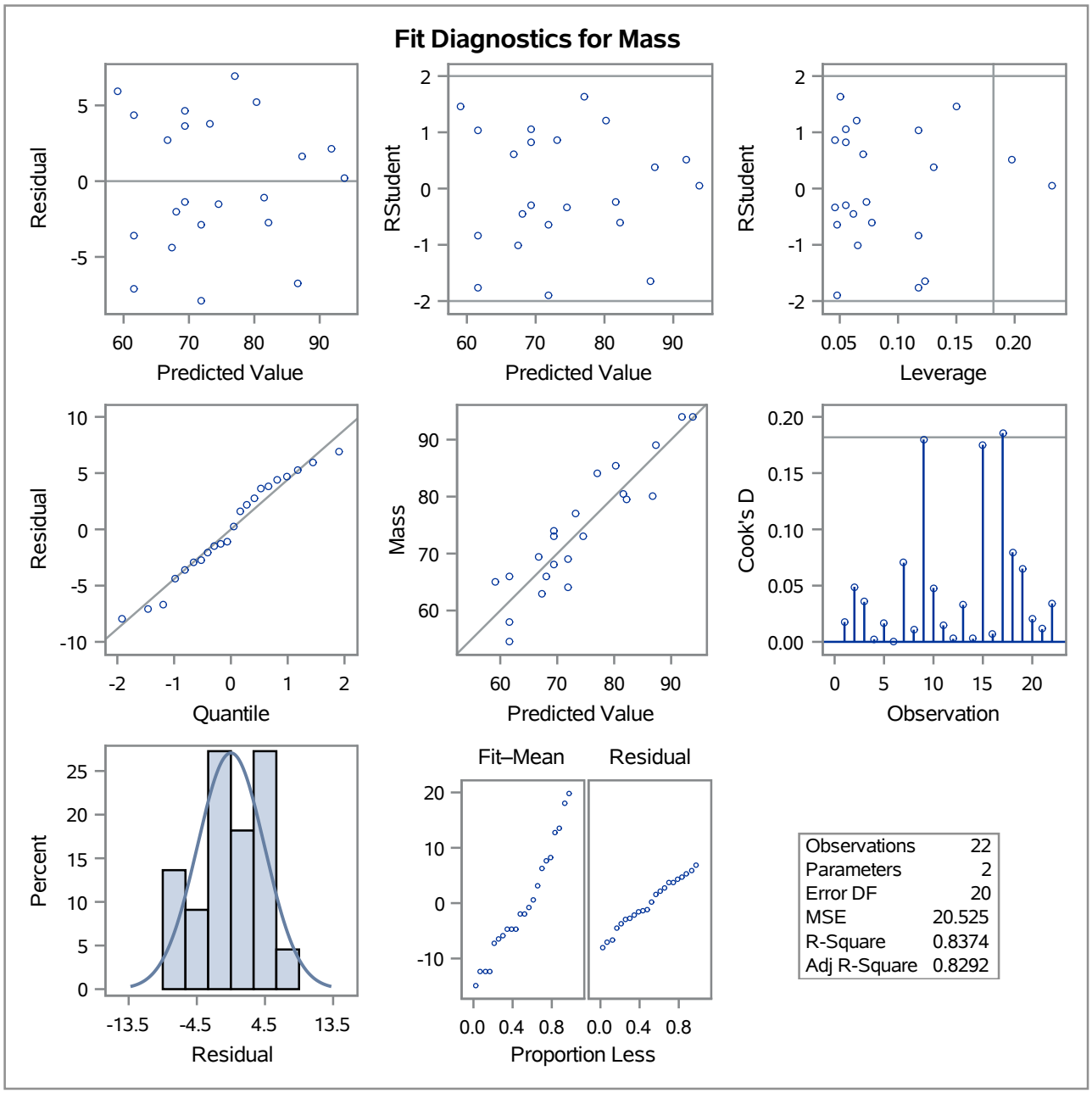
Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-36.19109	10.89480	-3.32	0.0034
Waist	1	1.28696	0.12682	10.15	<.0001

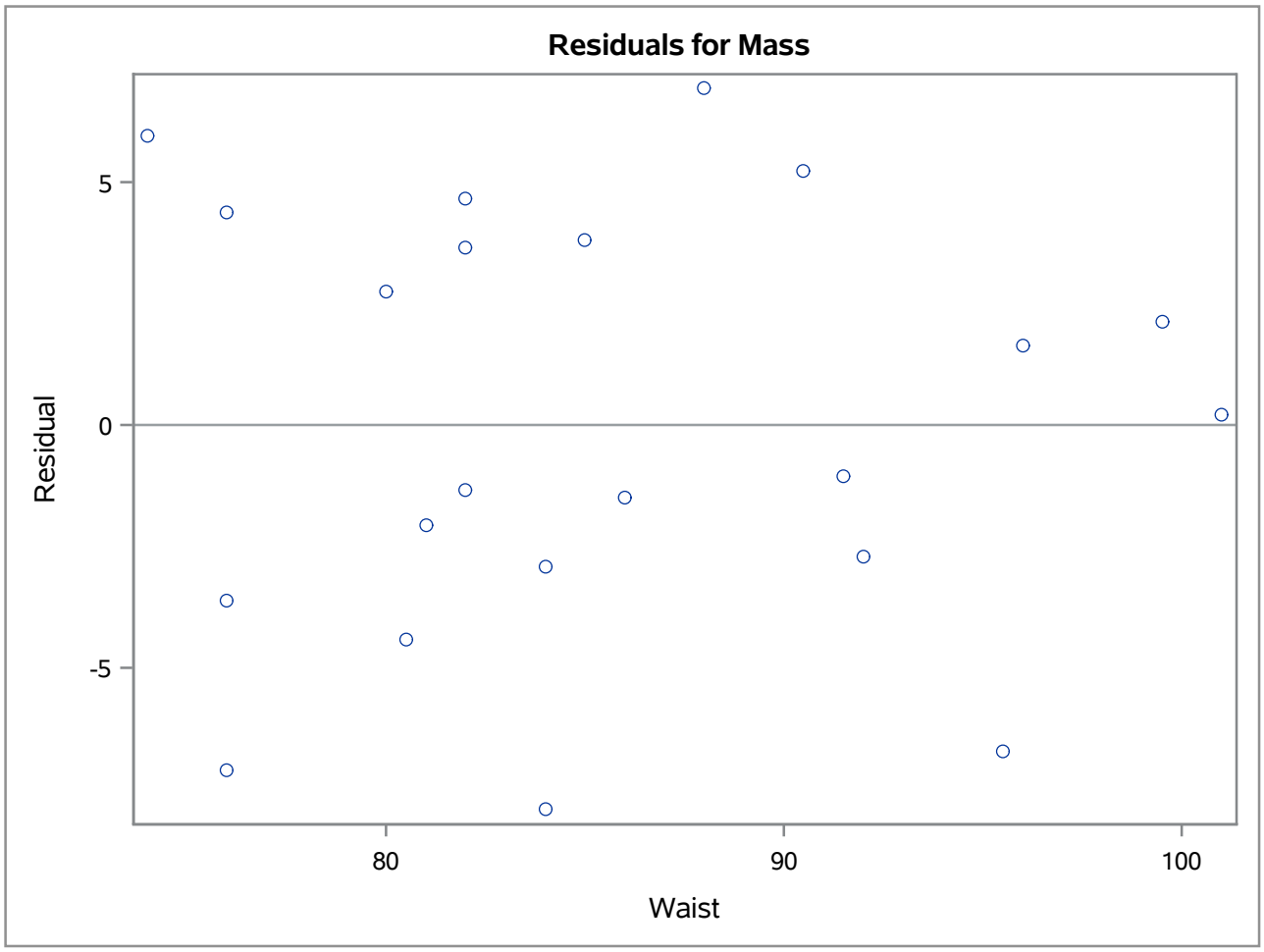
The REG Procedure
Model: MODEL1
Dependent Variable: Mass



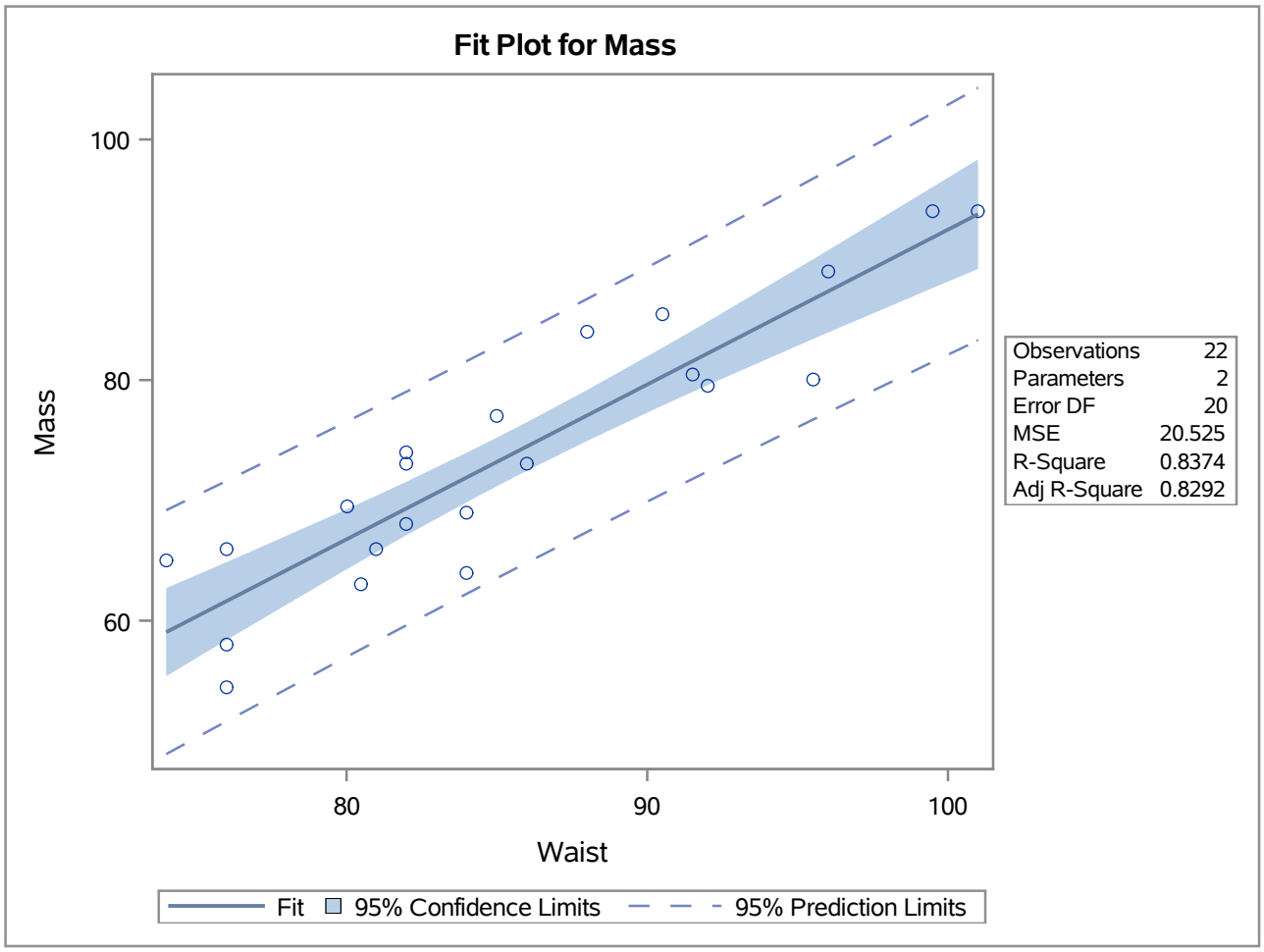
The REG Procedure
Model: MODEL1
Dependent Variable: Mass



The REG Procedure
Model: MODEL1
Dependent Variable: Mass



The REG Procedure
Model: MODEL1
Dependent Variable: Mass



Physical Measures
Polynomial Regression - second degree Quadratic

The REG Procedure
Model: MODEL1
Dependent Variable: Mass

Number of Observations Read	22
Number of Observations Used	22

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	2099.05035	1049.52517	46.91	<.0001
Error	19	425.09738	22.37355		
Corrected Total	21	2524.14773			

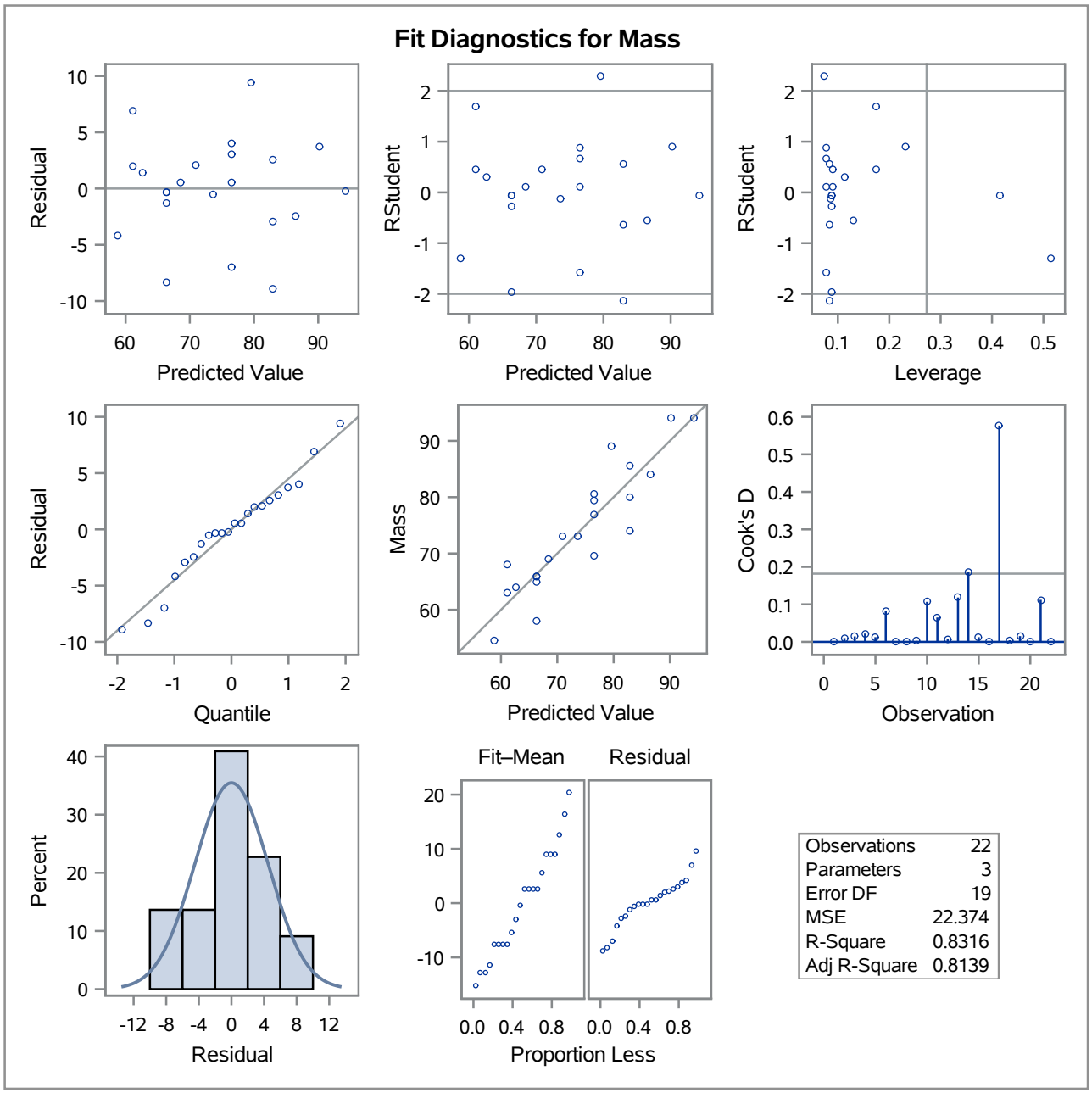
Root MSE	4.73007	**R-Square**	0.8316
Dependent Mean	73.93182	**Adj R-Sq**	0.8139
Coeff Var	6.39788		

Parameter Estimates

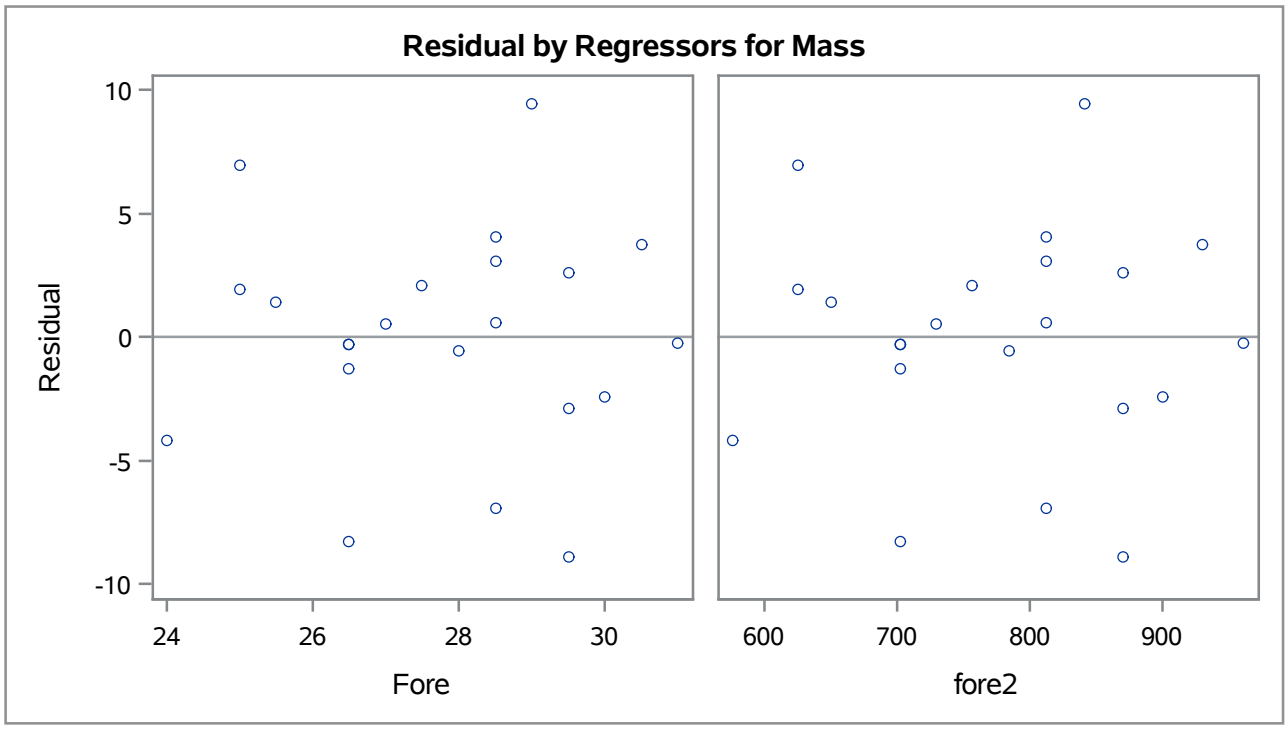
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|	Type I SS
Intercept	1	275.26547	210.24808	1.31	0.2061	120250
Fore	1	-19.94155	15.30021	-1.30	0.2080	2038.88223
fore2	1	0.45493	0.27741	1.64	0.1175	60.16811

Physical Measures
Polynomial Regression - second degree Quadratic

The REG Procedure
Model: MODEL1
Dependent Variable: Mass



The REG Procedure
Model: MODEL1
Dependent Variable: Mass



Physical Measures
Multiple Regression

The REG Procedure
Model: MODEL1
Dependent Variable: Mass

Number of Observations Read	22
Number of Observations Used	22

Analysis of Variance

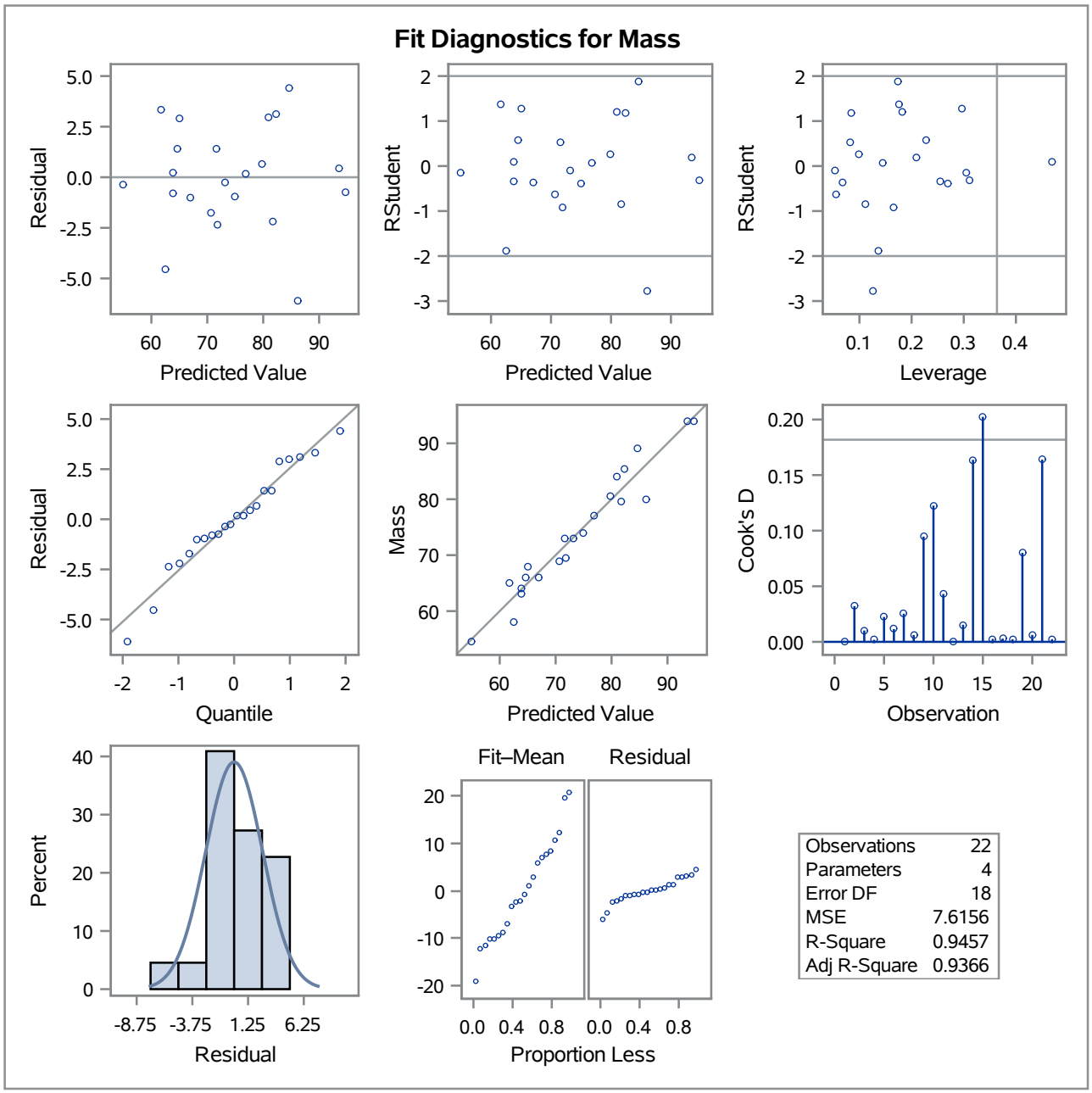
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	2387.06629	795.68876	104.48	<.0001
Error	18	137.08143	7.61564		
Corrected Total	21	2524.14773			

Root MSE	2.75964	**R-Square**	0.9457
Dependent Mean	73.93182	**Adj R-Sq**	0.9366
Coeff Var	3.73269		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|	Type I SS	Type II SS
Intercept	1	-73.18263	9.09650	-8.05	<.0001	120250	492.91683
Fore	1	2.24511	0.56167	4.00	0.0008	2038.88223	121.68123
Waist	1	0.69369	0.12672	5.47	<.0001	324.72983	228.20451
Thigh	1	0.51087	0.29111	1.75	0.0963	23.45424	23.45424

The REG Procedure
Model: MODEL1
Dependent Variable: Mass



The REG Procedure
Model: MODEL1
Dependent Variable: Mass