Objective Value: 957,627

Name	Final Value	Objective Coefficient	Allowable Increase	Allowable Decrease
Production S1	3,000.00	191.60	Infinity	54.13
Production S2	699.10	314.80	123.95	314.80
Production S3	1,500.00	108.50	Infinity	36.46

Name	Final Value	Shadow Price	Constraint R.H. Side	Allowable Increase	Allowable Decrease
S3 Demand	1,500.00	36.46	1,500.00	337.51	440.93
S1 Demand	3,000.00	54.13	3,000.00	312.26	231.05
S2 Demand	699.10	-	800.00	Infinity	100.90
Labour (hours) used	55,000.00	13.46	55,000.00	2,359.00	16,345.00
Wood (meters) used	9,648.20	-	10,000.00	Infinity	351.80

Regression #2		
R Square 0.999968894		
	Coefficients	*Standard Error*
Intercept	254.30	311.31
S1	10.20	0.17
S2	23.37	1.31
S3	5.34	0.47

Using the information provided in the question and the tables above, explain how confident you are on this being the optimal model (provide calculations and rationale).

Test coefficients with the error term to see if they are within the "allowable range". If they are then we can say with confidence that this is the best model.

Range permitted	*Allowable Increase*	*Allowable Decrease*
S1: (.17hours)(2 error terms)($40 per hour) ➔ $13.60	*infinity*	*54.13*
Within range!		
S2: (1.31 hours)(2 error terms)($40 per hour)➔ $104.80	*123.95*	*314.80*
Within range		
S3: (.47 hours)(2 error terms)($40 per hour)➔ $37.60	*infinity*	*36.4*

Error term at the extreme is slightly outside range:

Conclusion: We are very confident in this model!