Example 5: Efficient stock portfolio.

Find the weightings of stocks in an efficient portfolio which maximizes the portfolio rate of return for a given level of risk. This worksheet uses the Sharpe single-index model; you can also use the Markowitz method if you have covariance terms available.

Risk-free rate	6.0%	*Market variance*	3.0%
Market rate	15.0%	*Maximum weight*	100.0%

	Beta	*ResVar*	*Weight*	**Beta*	**Var.*
Stock A	0.80	0.04	20.0%	0.160	0.002
Stock B	1.00	0.20	20.0%	0.200	0.008
Stock C	1.80	0.12	20.0%	0.360	0.005
Stock D	2.20	0.40	20.0%	0.440	0.016
T-bills	0.00	0.00	20.0%	0.000	0.000
Total			100.0%	1.160	0.030

	Return	***Variance***
Portfolio Totals:	**16.4%**	***7.1%***

Maximize Return: A21:A29	**Minimize Risk: D21:D29**
0.1644	0.0708
5	5
1	1
1	1
1	1
1	1
1	1
1	1
1	1