You have been given the following information:

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| --- | --- | --- | --- |
|  | Expected Return | Proportion of Portfolio | Standard Deviation ofExpected Return |
| Asset A  | .05  | 0.4  | 0.5 |
| Asset B | .02  | 0.6  | 0.2 |
| Asset C | .03  | —  | 0.9 |

The correlation coefficient between asset A and asset B is +1, and between asset C and asset B it is +0.05.

a. Calculate the expected return and the risk of return for a portfolio consisting of assets Aand B.

b. How does the risk of return for this portfolio change if the correlation coefficient between assets A and B is +0.5 rather than +1? What conclusions can you draw from this change with respect to portfolio diversification for the reduction of risk?

c. By how much is the risk of the portfolio reduced when asset A is replaced by asset C?