8) You are given the following information about a two-asset portfolio:

    (i)   The Sharpe ratio of the portfolio is 0.3667.

    (ii)   The annual effective risk-free rate is 4%.

    (iii)   If the portfolio were 50% invested in a risk-free asset and 50% invested in a risky asset X, its expected return would be 9.50%.

Now, assume that the weights were revised so that the portfolio were 20% invested in a risk-free asset and 80% invested in risky asset X.

Calculate the standard deviation of the portfolio return with the revised weights.

(A)   6.0%

(B)   6.2%

(C)   12.8%

(D)   15.0%

(E)   24.0%