Recommended Book: "*Elementary Linear Algebra (Applications Version)*" by Howard Anton and Chris Rorres, 11th Edition, Wiley, USA, 2014.

Exercises (from the recommended book):

Exercise Set 1.5

True-False Exercises

TF. In parts (a)–(g) determine whether the statement is true or false, and justify your answer.

(a) The product of two elementary matrices of the same size must be an elementary matrix.

False, not true in general.

(b) Every elementary matrix is invertible.

True

(c) If A and B are row equivalent, and if B and C are row equivalent, then A and C are row equivalent.

True

(e) If A is an $n \times n$ matrix that is not invertible, then the matrix obtained by interchanging two rows of A cannot be invertible.

True

(f) If A is invertible and a multiple of the first row of A is added to the second row, then the resulting matrix is invertible.

True

(g) An expression of an invertible matrix A as a product of elementary matrices is unique.

False