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1.
2. **LINEAR TRANSFORMATION**:

 It is also called linear mapping, it is a mapping V W between two modules (for example, two vector spaces) that preserves (in the sense defined below) the operations of addition and scalar multiplication.

1. **RANK OF A MATRIX**:

In linear algebra, the rank of a matrix A is the dimension of the vector space generated (or spanned ) by its columns. This corresponds to the maximal number of linear independent columns of A. This, in turn, is identical to the dimension of the vector space spanned by its rows. The rank is commonly denoted by rank (A) or rk (A); sometimes the parenthesis are not written, as in rank A

1. X =

.

 1 2 8

 4 7 6

 9 5 3

X = 1 7 6 -2 4 6 + 8 4 7

 5 3 9 3 9 5

 X = 1( 21 – 30 ) - 2 ( 12 – 54 ) + 8 ( 20 – 63 )

 X = -9 +84 -344

 = -269

 X ≠ 0

THE MATRIX X IS A NON-SINGULAR MATRIX.

1.

 X Y

 E. .2

 F. .4

 G. .6

 H. .8

 I. .10

 J.

 K.

 X T Y