# Matrices - Solutions

1.

(a) .

(b) .

(c) ,where and .

2.

(a) .

(b)

3.

(a) .

(b) .

(c)

(d) .

4.

(a) .

(b)

.

5.

(a) .

(b) .

6.

(a) .

(b)

.

(c) This is not possible as the number of columns in is not equal to the number of rows in .

7.

(a) .

(b) .

(c) .

(d) so is not idempotent.

(e) and so and is not orthogonal.