

**1**

$$(1) \begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{pmatrix}$$

$$(2) \begin{pmatrix} 1 & 0 & \frac{1}{2} \\ 0 & 1 & -1 \\ 0 & 0 & 0 \end{pmatrix}$$

$$(3) \begin{pmatrix} 1 & -1 & 0 & -1 \\ 0 & 0 & 1 & -2 \\ 0 & 0 & 0 & 0 \end{pmatrix}$$

**2**

(1)  $P[i, a]P[i, b] = P[i, ab]$ . つまり  $c = ab$

(2)  $Q[i, j]^2$  は単位行列に等しい.

(3)  $R[i, j, a]R[i, j, b] = R[i, j, a + b]$  と書ける.  $c = a + b$