2. $[x\ y\ 2]\begin{bmatrix} 3 & 2 & 1 \\ 0 & 0 & 1 \\ 4 & -1 & 1 \end{bmatrix}$

18. $p_1 + a_2(p_2 - p_1) + \cdots + a_n(p_n - p_1)$

$= (1 - a_2 - a_3 - \cdots - a_n)p_1 + a_2 p_2 + \cdots + a_n p_n$

$= a_1 p_1 + \cdots$

20. $a(a_1 p_1 + \cdots + a_n p_n) = (a_1 p_1 + \cdots + a_n p_n)A$

$= \cdots$

21.

벡터(4차원) $w=0$ (x, y, z 축) $\leftarrow \begin{bmatrix} 0.5 & 0 & 0 & 0 \\ 0 & -0.5 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0.5 & 0.5 & 0 & 1 \end{bmatrix}$

점이고 $w=1$

(원점)

26 (a) $(uR)(vR) = uR \cdot R^T v^T = u \cdot v$

(b) $\|uR\| = \sqrt{uR \cdot uR} = \sqrt{uRR^T u^T}$

$= \sqrt{uu^T} = \|u\|$

(c) by (a) & (b)

27. 길이 : $1 \rightarrow \sqrt{5}$ $\therefore S = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & \sqrt{5} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$