Chris Hayduk 2/23

Lec 7, Ex. B

1. $\alpha^5, \quad \beta^2 = 1, \quad \alpha\beta = \beta\alpha^{-1}$

$\Rightarrow \alpha = 1, \quad \beta = \pm 1$

$P_{++}: r \to 1, \quad s \to 1$

$P_{+-}: r \to 1, \quad s \to -1$

2. $\alpha^n = 1, \quad \beta^2 = 1, \quad \alpha\beta = \beta\alpha^{-1}$

If n even, $\alpha = \pm 1, \quad \beta = \pm 1$

4 combos

If n odd, $\alpha = 1, \quad \beta = \pm 1$

2 combos

3.

4a.

σ	1	s_1	s_2	$s_1 s_2$	$s_2 s_1$	$s_1 s_2 s_1$
$\sigma \cdot a$	a	b	w	c	r	u

... $s_2 s_1 s_2$	s_1^2	s_2^2
u	a	a

6. $$P(S_2) = \begin{pmatrix} 1/2 & \sqrt{3}/2 \\ \sqrt{3}/2 & -1/2 \end{pmatrix}$$

$$\det(P(S_2)) = -1$$