Example 2.8 — SHV.

Frame $0 \to 1$: $Rot_{x_0, \theta}$

Frame $1 \to 2$: $Rot_{z_1, \phi}$

Frame $2 \to 3$: $Rot_{z_0, \alpha}$ A   B   C

Frame $3 \to 4$: $Rot_{y_3, \beta}$

Frame $4 \to 5$: $Rot_{x_0, \delta}$

$$R = Rot_{x_0, \delta} \cdot A$$
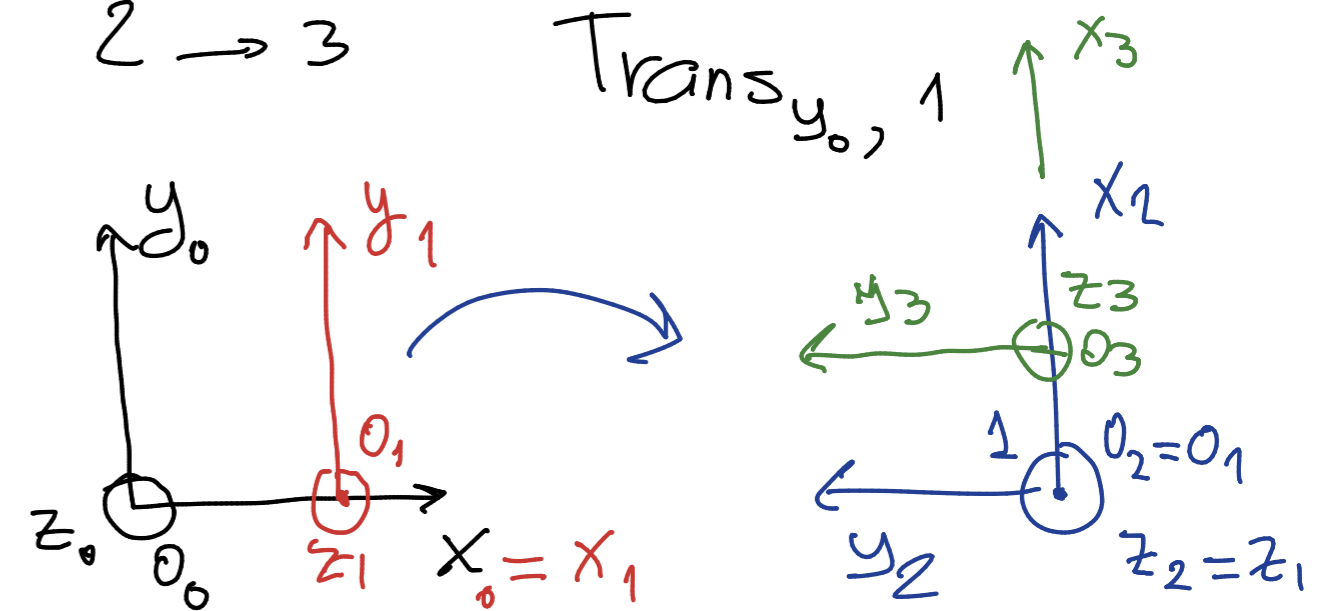
$$R = Rot_{x_0, \delta} \cdot B \cdot Rot_{y_3, \beta}$$

$$R = \{\delta, \alpha, \theta, \phi, \beta\}$$
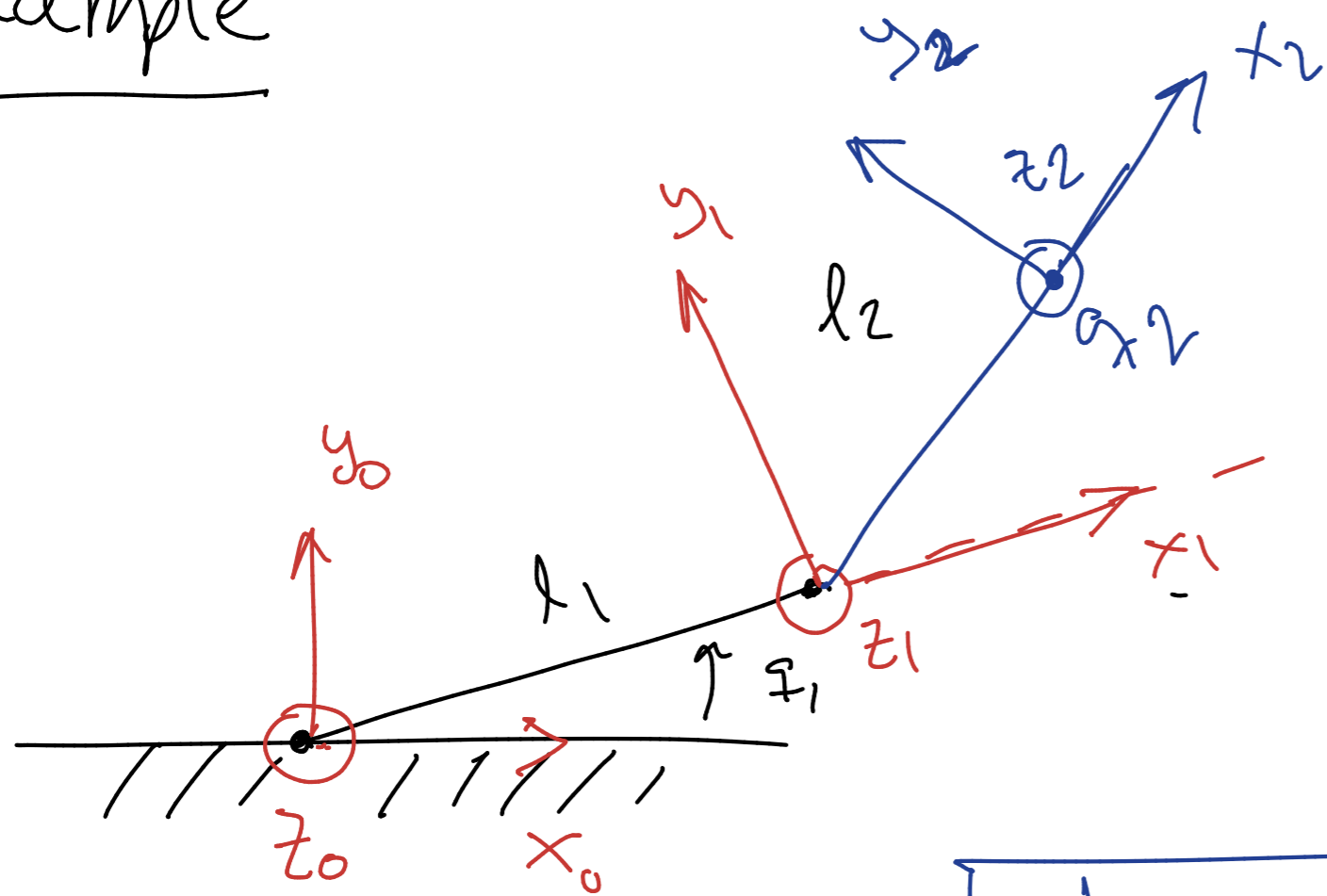

Prob. 2-37 SHV

$0 \to 1$ $Trans_{x, 3}$

$1 \to 2$ $Rot_{z, \pi/2}$

$2 \to 3$ $Trans_{y_0, 1}$

$$H_3^0 = \left(Trans_{y_0, 1}\right) \cdot \left(Trans_{x, 3}\right) \cdot Rot_{z, \pi/2}$$

Example

$0 \rightarrow 1:$

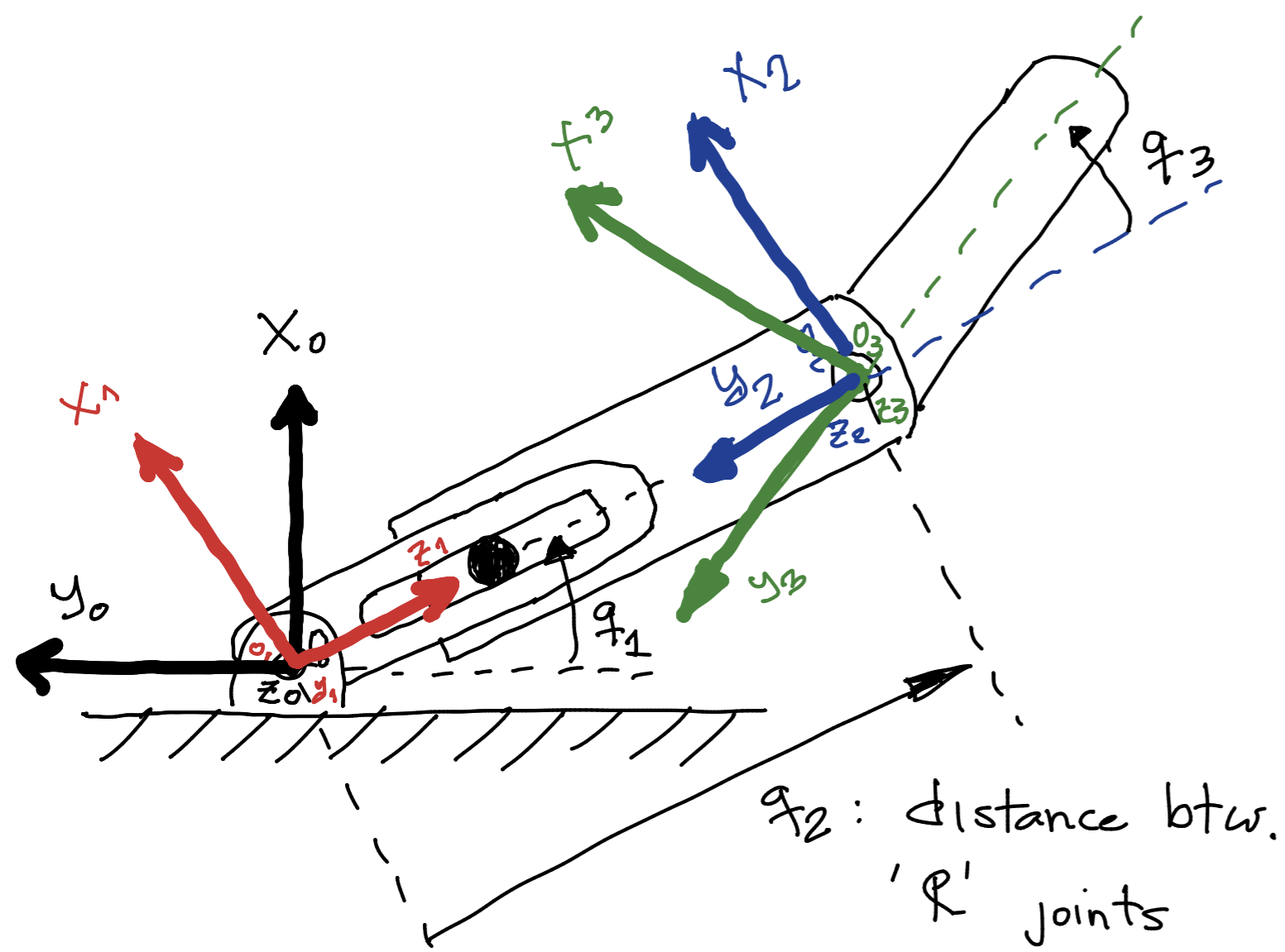$Rot_{z, q_1} \cdot Trans_{x, l_1}$

$1 - 2$

$Rot_{z, q_2} \cdot Trans_{x, \frac{l_2}{2}}$

Link	θ	d	a	α
1	q_1^*	0	l_1	0
2	q_2^*	0	$\frac{l_2}{2}$	0

Prob 3-5 SHV. Solution.

$0-1:$ Rot_{z, q_1} $Rot_{x, \pi/2}$

$1-2:$ $Trans_{z, q_2}$ $Rot_{x, -\pi/2}$

$2-3:$ Rot_{z, q_3}

$q_2:$ distance btw. 'R' joints

Link	θ	d	a	α
1	q_1	0	0	$\pi/2$
2	0	q_2	0	$-\pi/2$
3	q_3	0	0	0

D-H table