|  |  |
| --- | --- |
| 1.1 | multiplies out to be |
| 1.2 | Since the line has no x component, that means it’s parallel to the x-axis |
| 1.3 | The second answer is pretty obvious, given in the lecture slides:  and  For the first answer, compounding translations are additive, so  Compounding rotations are multiplicative, so |
| 1.4 | Long answer here |
| 2.1 |  |
| 2.2 |  |
| 3.1 |  |
| 3.2 | Pulled directly from Hartley and Zisserman  For , , , |
| 3.3 | or |
| 4.1 |  |
| 4.2 |  |