

## HW #6

Submitted by Jesse Austin Stringfellow, Due Oct. 30, 2019

### Contents

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- [Problem #1](#)
- [Problem #2 See attached page](#)

### Problem #1

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```
g1 = SE3 ([1;2;3] , [1 0 0;0 0 -1; 0 1 0]);  
g2 = SE3 ([2; -1; -1] , [sqrt(2)/2 0 -sqrt(2)/2;0 1 0; sqrt(2)/2 0 sqrt(2)/2]);  
p1 = [4;5;6];  
p2 = [4;5;6;1];  
g3 = g1 * g2  
g4 = g3 .* p1  
g5 = g3 .* p2  
invg3 = inv(g3)
```

```
    0.7071         0   -0.7071     3.0000  
   -0.7071         0   -0.7071     3.0000  
         0    1.0000         0     2.0000  
         0         0         0     1.0000
```

g4 =

```
    1.5858  
   -4.0711  
    7.0000
```

g5 =

```
    1.5858  
   -4.0711  
    7.0000  
    1.0000
```

```
    0.7071   -0.7071         0         0  
         0         0    1.0000   -2.0000  
   -0.7071   -0.7071         0     4.2426  
         0         0         0     1.0000
```

### Problem #2 See attached page

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