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— H A R V A R D U N I V E R S I T Y —  
*Computer Science 175*

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## PROBLEM SET 1.5

Due 30 September 2013, 11:59pm

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Michaels Tingley and Traver completed this problem set in tandem.

### PROBLEM 4.1

### PROBLEM 4.2

### PROBLEM 4.3

Note that in both of these scenarios, we have to rotate by  $\theta$ . So we have no choice but to set

$$R = \begin{pmatrix} \cos \theta & -\sin \theta & 0 \\ \sin \theta & \cos \theta & 0 \\ 0 & 0 & 1 \end{pmatrix}$$

Now, we'll discuss  $T$  in the equation  $\vec{b}^t = \vec{a}^t T R$ .

In this case

### PROBLEM 4.4