

Math 510 Ungraded Homework 1.3

1. Let B be the bilinear form

$$B(\mathbf{x}, \mathbf{y}) = x_1y_1 - x_2y_2 + 2x_1y_3 - 7x_3y_2.$$

- (a) Find $[B]$ (the standard matrix of B).
- (b) Verify that $B(\mathbf{x}, \mathbf{y}) = \mathbf{x}^T[B]\mathbf{y}$.