Directions: Show ALL work for credit; Give EXACT answers when possible; SIMPLIFY your answers;

1. Compute and simplify $\frac{1}{2}AB^T$ when

$$A = \begin{bmatrix} 3 & 1 & 0 \\ 3 & 3 & -3 \\ 1 & -4 & 1 \end{bmatrix} \text{ and } B = \begin{bmatrix} 3 & -3 & 1 \\ 6 & 2 & 2 \\ -4 & 6 & 6 \end{bmatrix}$$