

Name:

- [5] 1. Let $T \in \mathcal{L}(V, W)$ be a linear map. Prove that if the vectors v_1, v_2, \dots, v_m span V , then the vectors Tv_1, Tv_2, \dots, Tv_m span $\text{range } T$.
- [5] 2. Let $S, T \in \mathcal{V}$ be linear operators. Prove that if $ST = TS$, then $\text{range } S$ is invariant under T .
3. (**Bonus - 2 points**) (Correctly) write down the definition of **any** term introduced in this course.