4.2 Subspaces of a Vector Space (part 2)

What do subspaces of $\mathbb{R}^2$ and $\mathbb{R}^3$ look like?

- Subspaces of $\mathbb{R}^2$
  - The zero vector
  - Lines through the origin
  - All of $\mathbb{R}^2$

- Subspaces of $\mathbb{R}^3$
  - The zero vector
  - Lines through the origin
  - Planes through the origin
  - All of $\mathbb{R}^3$

- You may use this information to help you identify which subsets are/are not subspaces of $\mathbb{R}^2$ and $\mathbb{R}^3$.

- However you may NOT use this as part of your proof. (Unless you prove that each of these 7 is a subspace, and that these are the ONLY subspaces.)