MATH 4A QUIZ 2 WINTER, 2018

Name: _____ TA Name: _____ Section Time: _____

Please show all your work! Answers without supporting work will not be given credit.
Each question is worth 15 points.

1. Complete the following definition:

   A **subspace** of $\mathbb{R}^n$ is any set H in $\mathbb{R}^n$ that has the following three properties:

   (a)

   (b)

   (c)

2. Determine if the subset of $\mathbb{R}^3$ consisting of all vectors of the form $\begin{bmatrix} a \\ b \\ c \end{bmatrix}$, where $a - b = c$ is a subspace.

   If it is a subspace, prove your claim. If it is not a subspace, show which property it violates and give a counterexample.