10. Sulfuric acid has a lower pH than nitric acid at the same concentration. Which of the following statements **best** explains this observation?

(a) Sulfuric acid is a stronger acid than nitric acid.
(b) Sulfuric acid has more protons available for ionisation than nitric acid.
(c) Nitric acid is a stronger acid than sulfuric acid.
(d) Nitric acid has more protons in solution than sulfuric acid at the same concentration.

A group of students conducted a series of titrations to determine the concentration of acetic acid in vinegar using the following steps:

i. A sample of vinegar was pipetted into a volumetric flask that had been rinsed with the vinegar and then deionised water added up to the mark.
ii. The volumetric flask was stoppered, and the diluted solution mixed thoroughly.
iii. Aliquots of the diluted vinegar solution were pipetted into conical flasks that had been rinsed with deionised water and a few drops of indicator added to each flask.
iv. A standardised sodium hydroxide solution was added to a burette that had been rinsed with deionised water.
v. Two samples of diluted vinegar were titrated against the sodium hydroxide solution and both values were used to calculate the concentration of the vinegar.

7. The students found it difficult to obtain consistent results from their titrations. Which of the steps could have been responsible for the difficulties?

(a) iv and v only
(b) i, ii, iv and v only
(c) i, iv and v only
(d) iii, iv and v only