# Chapter [3] Test Questions

**True/False:**
A vector does not have a fixed location in space.
True
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**Multiple Choice:**
The result of adding a Vector, v, with a point, Q, yields an object of type:
A. Vector
B. Point
C. Scalar
D. None of the Above

B. Point
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**Fill in the Blank:**
In vector space, a set of vectors is _____, if we cannont represent one of the vectors in terms of the others using scalar-vector addition.

Linearly Independant
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**Short Answer:**
What is an advantage of using a homogeneous-coordinate system?

1. All affine transformations can be represented as matrix multiplications in homogeneous coordinates.
2. Less arithmetic work is involved when using homogeneous-coordinate systems.
3. The Uniformity of the affine transformations makes carrying out successive transformations far easier than in three dimensional space.
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