<u>Linear</u>

Vectors represent motion and are "abstract" $\vec{v}$

The coordinate vector $[x_1, y_1, z_1]^t$ for $\vec{v}$ depend upon a basis — How $\vec{x}, \vec{y},$ and $\vec{z}$ are defined

In GG +x is to the right, +y is up, and +z is out of the screen — eye coordinates.

Consider $\vec{v} = $ "1 mile north"

How is this defined

1) If you're facing north?

2) If you're facing West?

For convenience and efficiency, we'll
see a number of coordinate systems
(frames, actually)

- eye coordinates
- world coordinates   *
- object coordinates

To render a scene correctly, we have
to transform from one coordinate system
to another

Think about rendering an army of 1,000
clones

How much geometry do we need?
How many transformations do we need?