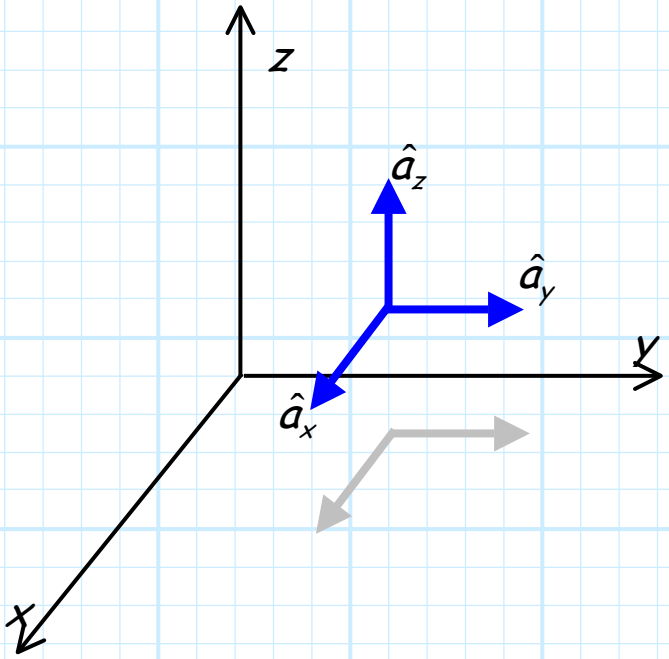
Cartesian Base Vectors

As the name implies, the Cartesian base **vectors** are related to the Cartesian **coordinates**.

Specifically, the unit vector $\hat{a}_x$ points in the **direction of increasing** ***x***. In other words, it points away from the *y*-*z* (*x*=0) plane.

Similarly, $\hat{a}_y$ and $\hat{a}_z$ point in the direction of **increasing** *y* and *z*, respectfully.



We said that the directions of base vectors **generally** vary with location in space—Cartesian base vectors are the **exception**! Their directions are the same **regardless** of where you are in space.