Displacement:
- The straight-line distance between the initial and final points
- The symbol is \( \Delta x \), where \( \Delta \) means “change in” and \( x \) means “position”
- The change in position of an object
- \( \Delta x = x_f - x_i \) (read, displacement equals position final minus position initial)
- Can be either positive or negative
- Possible dimensions: meters, feet, kilometers, furlongs, rods, ångström, etc (any linear dimension)
  - This number is the Magnitude or amount of the displacement
- Has both magnitude and direction
- Displacement ≠ Distance

Directions:

\[
\begin{array}{ccc}
+x & -y & \text{Cartesian Coordinates} \\
+y & +x & \\
-y & -x &
\end{array}
\]

\[
\begin{array}{ccc}
\text{Up (+)} & \text{Left (-)} & \text{West} \\
\text{Down (-)} & \text{Right (+)} & \text{East} \\
\text{North} & \text{South} &
\end{array}
\]

Relative Directions

Cardinal Directions

The 3 examples are done in the video don’t really need lecture notes.