Troublesome Graphs:

Correctly plotted graphs:

\[
\text{Acceleration} \quad \text{The rate of change of velocity}
\]

\[
V = At
\]

\[
V = at + V_0
\]

\[
\frac{V}{t} = a
\]

\[
[a] = \left[\frac{m/s}{s}\right] = \left[\frac{m}{s^2}\right]
\]
They are the same units as acceleration but they are definitely not the same values on our graphs!

1st explanation:
Constant Velocity

Increasing Velocity:

For an accelerating Object starting from rest we expect:

\[ \Delta x = \frac{1}{2} a t^2 \]

\[ v = at + v_0 \]

\[ A = a = 2.8 \]

For an accelerating object with an initial velocity