1-D kinematics II

Review:
- Displacement: $\Delta x =$
  $V_{\text{avg}} =$

- Instantaneous
  $V(t) =$
  $a(t) =$

Fill in plots for $V(t)$, $a(t)$.
\[ x(t) = 3t - 4t^2 + t^3 \]

1. Use Excel, Matlab, etc. to plot for \( t = 0 \) to 45

2. Find \( v(t) \)

\[ v(t) = \]

3. Find \( a(t) \)

\[ a(t) = \]

3. Find out at what times the particle crosses the origin. What is the velocity (sign and magnitude when this happens?)
What if acceleration is constant?