$$a_x = \frac{d}{dt} v_x = \frac{d}{dt} \left[60\ \text{m/s} + (0.50\ \text{m/s}^3)\, t^2 \right] = \frac{d}{dt} (60\ \text{m/s}) + \frac{d}{dt} (0.50\ \text{m/s}^3)\, t^2 = 0 + 2\,(0.50\ \text{m/s}^3)\, t^{2-1} = (1.0\ \text{m/s}^3)\, t$$

$$\frac{d}{dt} v_t$$