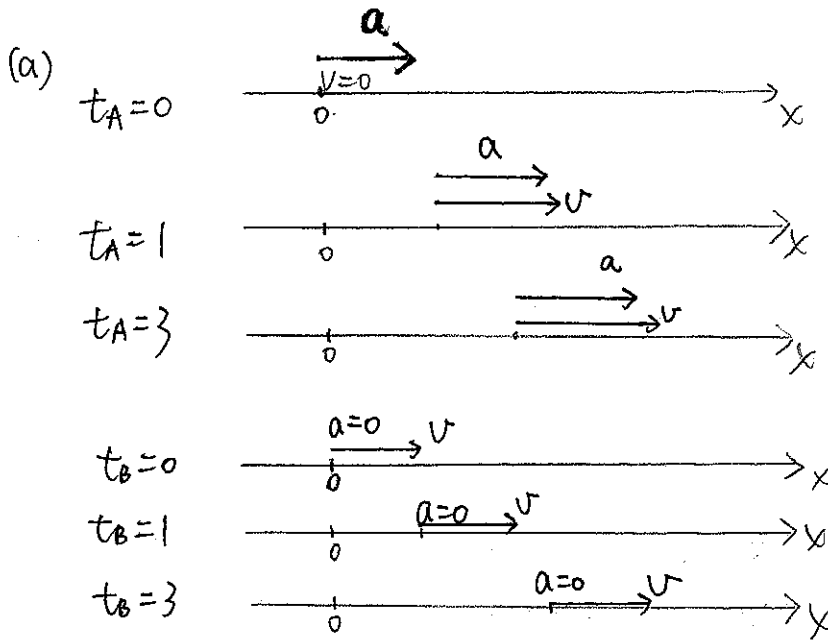
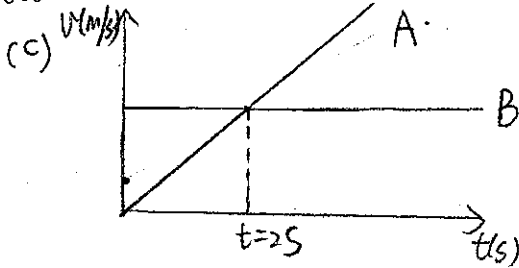


Homework Solution #2

2.35



(b) $t = 1(s)$ or $t = 3(s)$



(d) $t = 2.5$

(e) $t = 3.5$

(f) $t = 1.5$

2.36. $a_c = 3.2 \text{ m/s}^2$ $v_t = 20.0 \text{ m/s}$ $v_0 = 0 \text{ m/s}$

(a) $x_{\text{car}} = v_0 t + \frac{1}{2} a t^2$
 $= \frac{1}{2} a t^2$

$x_{\text{truck}} = v t$

$x_{\text{car}} = x_{\text{truck}}$

$v t = \frac{1}{2} a t^2$

$t = 12.5 \text{ s}$

$x = v_0 t + \frac{1}{2} a t^2 = v_{\text{truck}} \cdot t$

$= 12.5 \times 20 \text{ m}$

$= 250 \text{ m}$

(b) $v_{\text{car}} = v_0 + a t$
 $= 3.2 \times 12.5 \text{ m/s}$
 $= 40 \text{ m/s}$

