1. Diketahui $v = 106$ km/jam $= 29,44$ m/s

   $t = 0$ s.

   $t = 30$ s

   $x' = 1$ km $= 1000$ m

   ditanya a. (x', t') ... ?

   b. (x'', t'') .... ?

   jawab a.) $(x', t') = (1000$ m, 30 s$)$ | $t'' = t' = 30$ s

   b.) $x'' = x' - vt$

   $= 1000 - (29,44)(30)$

   $= 1000 - 883,2$

   $= 116,8$ m

   $(x'', t'') = (116,8$ m, 30 s$)$

2. Diketahui :

   $V_b = 15$ m/s (berlawanan arah)

   $V_k = 72$ km/jam $= 20$ m/s

   Ditanya : V_{bs} ... ?

   Jawab : $V_{bs} = V_k - V_b$

   $= 20 - 15$

   $= 5$ m/s.

3. Diketahui :

   $V_A = 60$ km/jam

   $V_B = 40$ km/jam

   Ditanya : a.) V_{AB} ... ?

   b.) V_{BA} ... ?

   Jawab : a. $V_{AB} = V_A - V_B$

   $= 60 - 40$

   $= 20$ km/jam (searah).

   b. $V_{BA} = V_B - V_A$

   $= 40 - 60$

   $= -20$ km/jam (berlawanan arah).

4. Diketahui :

$x' = 5$ m

$v = 36$ km/jam $= 10$ m/s

$t' = 5$ s

Ditanya   a.) (x', t') ... ?

b.) (x, t) ... ?

Jawab = a.) $(x', t') = (5, 5)$

b.) $x = (v t') + x'$

$= (10.5) + 5$

$= 55$ m

$(x, t) = (55, 5)$

5. Diketahui : $d = 100$ m

$v_A = 60$ m/s

$v_p = 80$ m/s

Ditanya   a. x ... ?

b. t' ... ?

Jawab :   a.)

$t = \dfrac{d}{v_p}$

$= \dfrac{100 \text{ m}}{80 \text{ m/s}}$

$= 1,25$ s

$x = v_A \cdot t$

$= 60 \cdot 1,25$

$= 75$ m

b.) $v_y = v_p \sin \theta$

$= 80 \sin 53°$

$= 80 \cdot (0,798)$

$= 63,84$ m/s

$t' = \dfrac{d}{v_y}$

$= \dfrac{100 \text{ m}}{63,84 \text{ m/s}}$

$= 1,57$ s.

6. Diketahui : $C = c$

$u = u$

$L = 2L$ (bolak balik)

Ditanya :   a. t total arus ... ?

b. Perbandingan t total arus dengan t total tegak lurus ... ?

Jawab :   a.) $V_{berlawanan} = c - u$

$t_{pergi} = \dfrac{L}{c - u}$

$V_{searah} = c + u$

$t_{kembali} = \dfrac{L}{c + u}$

$t_{total\ arus} = \dfrac{L}{c - u} + \dfrac{L}{c + u}$

$= \dfrac{L(c + u) + L(c - u)}{(c - u)(c + u)}$

$= \dfrac{Lc + Lu + Lc - Lu}{c^2 - u^2}$

$= \dfrac{2Lc}{c^2 - u^2}$

b.) $c^2 = v^2 + u^2$

$v^2 = c^2 - u^2$

$v = \sqrt{c^2 - u^2}$

$t_{seberang} = \dfrac{L}{\sqrt{c^2 - u^2}}$

$t_{total\ tegak\ lurus} = 2 \times \dfrac{L}{\sqrt{c^2 - u^2}}$

$\dfrac{T_{total\ arus}}{T_{total\ tegak\ lurus}} = \dfrac{\dfrac{2Lc}{c^2 - u^2}}{2 \times \dfrac{L}{\sqrt{c^2 - u^2}}}$

$= \dfrac{c}{c^2 - u^2} \times \sqrt{c^2 - u^2}$

$= \dfrac{c\sqrt{c^2 - u^2}}{c^2 - u^2}$

$= \dfrac{c}{\sqrt{c^2 - u^2}}$

$T_{total\ arus}$ (berlawanan + searah)

$> T_{tot\ tegak\ lurus}$ (bolak balik).