

Solving Motion and Work Problems with Graphs

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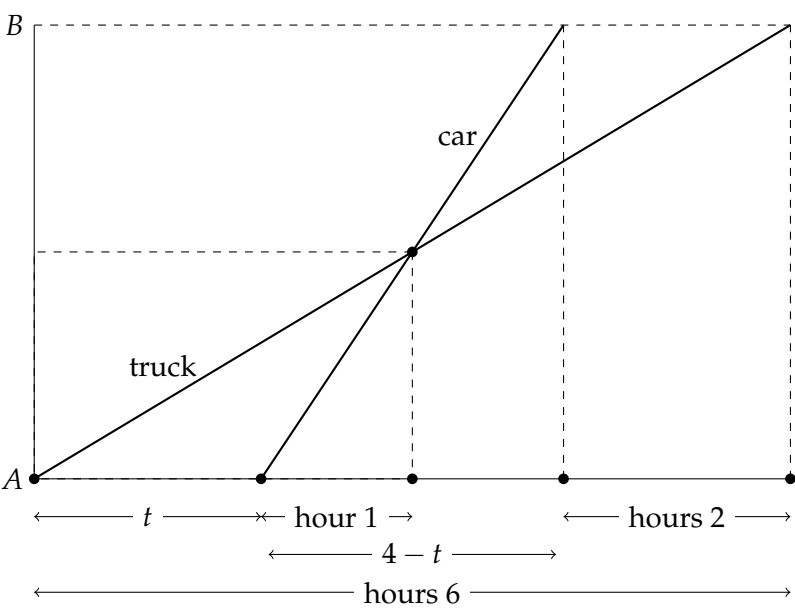
<http://www.weizmann.ac.il/sci-tea/benari/>

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a

A,
6
B.
A,
B 2
A
B
6



$= t = v_c$
 $= v_m$
A A
B:

$$\begin{aligned} v_m(t + 1) &= v_c \cdot 1 \\ v_m \cdot 6 &= v_c(4 - t) . \end{aligned}$$

t:

$$t^2 - 3t + 2 = 0$$

$1 = t$
 $2 = t$

b

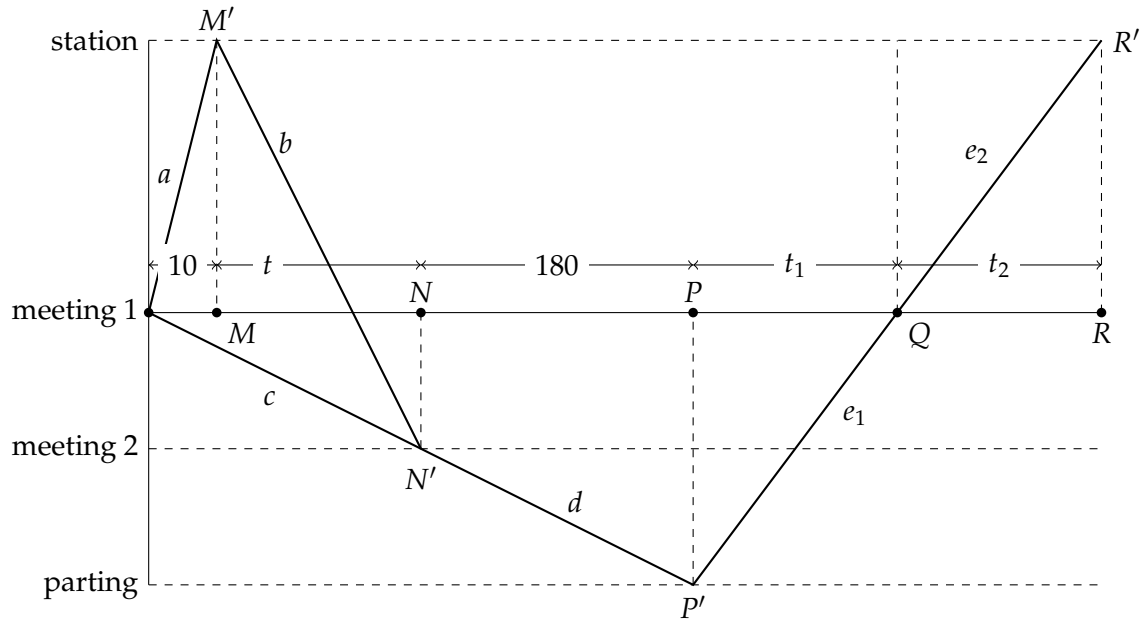
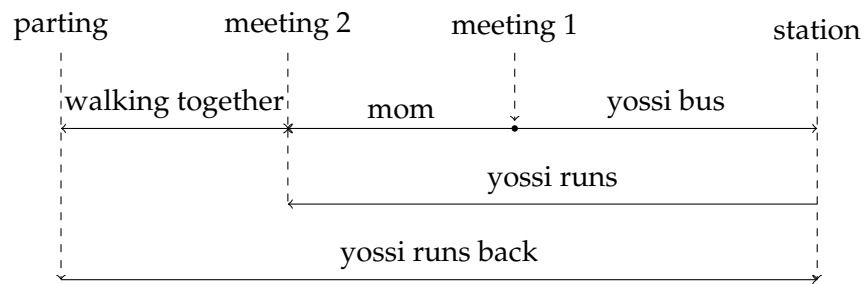
10

2

$\frac{1}{7}$

3

3



$$= a$$

$$= b$$

$$= c$$

$$= d = e_1 + e_2$$

$$\begin{aligned}
&= t \\
&= v_y \\
&= v_a \\
&= v_b \\
v_y &= 2v_a, v_y = v_b/7.
\end{aligned}$$

$$\begin{aligned}
&\mathbf{a} \quad NN' \, 1 \\
&2. \\
&c \\
&v_a(t+10). \\
&a \\
&b. \\
&NN'.
\end{aligned}$$

$$v_a(t+10)=v_yt-v_b\cdot 10.$$

$$\frac{v_y}{2}(t+10)=v_yt-7\cdot v_y\cdot 10$$

$$150=t$$

$$\begin{aligned}
&\mathbf{n} \quad e_1+e_2 \\
&PP' \\
&1 \\
&e_1, \\
&340=180+150+10 \\
&e_1 \\
&170=t_1 \\
&MM' \\
&1 \\
&RR'=MM', \\
&e_2, \\
&10 \\
&e_2 \\
&70=t_2 \\
&240=140+70=t_1+t_2 \\
&e_1 \\
&e_2(, \\
&340=180+150+10
\end{aligned}$$

1 c

2 ac