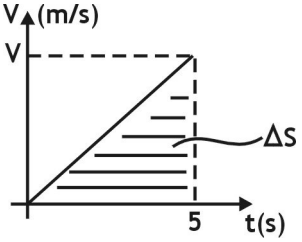
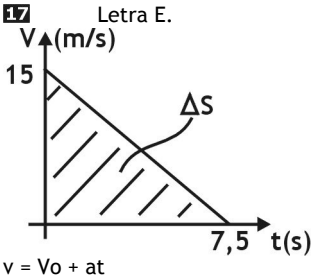
FÍSICA

16 Letra C.



$\Delta S = \frac{5V}{2} \rightarrow 50 = \frac{5V}{2} \rightarrow V = 20m/s = 72km/h$

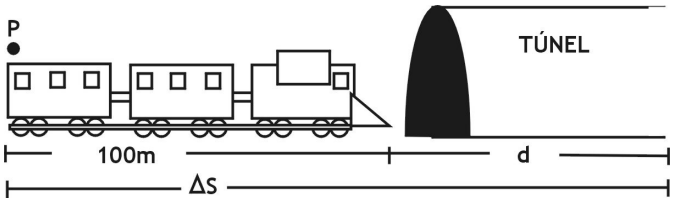
17 Letra E.



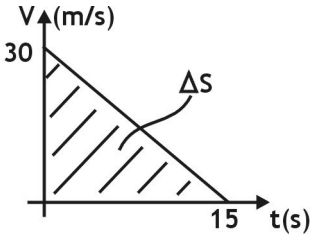
v = Vo + at
o = 15 − 2t
t = 7,5s

$\Delta S = \frac{7,5.15}{2} = 56,25m$

18 Letra E.



$v_p = 30 - 2t$
o = 30 − 2t
t = 15s



$\Delta S = \frac{15.30}{2} = 225m$

d = ΔS − 100 = 225 − 100 = 125m

19 Letra D.

$\left.\begin{array}{l} V_A = 2 + 6t \\ V_B = 6 + 2t \end{array}\right\} V_A = V_B \rightarrow 2 + 6t = 6 + 2t \rightarrow t = 1s$

20 Letra D.

$S_B = 20t$

$S_A = 25 + 20t - \frac{1}{2}.2.t^2 = 25 + 20t - t^2$

$S_A = S_B \rightarrow 25 + \cancel{20t} - t^2 = \cancel{20t} \rightarrow t = 5s$

$S_{encontro} = 20t = 20 \cdot 5 = 100m$

$d = 100 - 25 = 75m$

$$\left.\begin{array}{l} V_A = 20 - 2{,}5 = 10m/s \\ V_B = constante = 20m/s \end{array}\right\} V_B - V_A = 20 - 10 = 10m/s$$

21 Letra E.
$V^2 = 100 + 2 \cdot 3 \cdot 16 = 196 \rightarrow V = 14m/s$

22 Letra B.
Observar o gráfico (B).

23 Letra B.
Observar a equação (B).

24 Letra A.
Observar a teoria (A).

25 Letra A.
$300\cancel{P_o} = V_2\cancel{P_o} \rightarrow V = 300cm^3$

26 Letra E.

$$\left.\begin{array}{l} \cancel{P_oV_o} = \cancel{nRT_o} \\ \frac{2}{3}\cancel{P_o}3\cancel{V_o} = 2\cancel{nRT} \end{array}\right\} \frac{1}{2} = \frac{T_o}{2T} \rightarrow T = T_o$$

27 Letra A.
$10 \cdot 4 = P \cdot 10 \rightarrow P = 4atm$

28 Letra B.
$\Delta\ell = \ell_o\alpha\Delta t$

29 Letra B.

$$\left.\begin{array}{l} 0{,}1\Delta\ell = \ell_o\alpha\Delta t \\ 0{,}5\Delta\ell = \ell_o\alpha\Delta t' \end{array}\right\} \frac{0{,}1}{0{,}5} = \frac{\Delta t}{\Delta t'} = 5$$

30 Letra A.

$$\left.\begin{array}{l} \Delta V = V_o\gamma\Delta t \\ 0{,}0324V_o = V_o\gamma 900 \end{array}\right\} \gamma = \frac{0{,}0324}{900} = 0{,}000036$$

$$\alpha = \frac{\gamma}{3} = 0{,}000012$$

$\alpha = 12 \cdot 10^{-6}\ ^oC^{-1}$