$Q = 2 . k^{\frac{1}{2}} . l^{\frac{1}{2}}$

$Pk = 4DA$, $Pl = 9DA$

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① $k_0 = 4$

$Q = 2(4)^{\frac{1}{2}} . l^{\frac{1}{2}}$

$\Rightarrow Q = 4 l^{\frac{1}{2}} \Rightarrow l^{\frac{1}{2}} = \frac{Q}{4}$

$\Rightarrow l = \frac{1}{16} Q^2$

$CT = 4k + 9l$

$\Rightarrow CT = 4(4) + 9\left(\frac{1}{16}\right) Q^2$

$\Rightarrow \boxed{CT = \frac{3}{4} Q^2 + 16}$

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② $CT = \frac{3}{4} Q^2 + 12$

- $CF = 12$
- $CV = \frac{3}{4} Q^2$
- $CM = \frac{3}{4} Q + \frac{12}{Q}$
- $CFM = \frac{CF}{Q} = \frac{12}{Q}$
- $CVM = \frac{CV}{Q} = \frac{3}{4} Q$
- $Cmg = CT' = \frac{3}{2} Q$

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③ $\frac{Pmgk}{Pk} = \frac{Pmgl}{Pl} \Rightarrow \frac{k^{-\frac{1}{2}} l^{\frac{1}{2}}}{4} = \frac{k^{\frac{1}{2}} l^{\frac{1}{2}}}{9}$

$\Rightarrow \frac{l^{\frac{1}{2}}}{4k^{\frac{1}{2}}} = \frac{k^{\frac{1}{2}}}{9l^{\frac{1}{2}}}$

$\Rightarrow 4k = 9l \Rightarrow \boxed{l = \frac{4k}{9}}$

$Q = 2k^{\frac{1}{2}} \left(\frac{4k}{9}\right)^{\frac{1}{2}}$

$Q = 2 . k^{\frac{1}{2}} \frac{2k^{\frac{1}{2}}}{3}$

$Q = \frac{4}{3} k \Rightarrow k = \frac{3}{4} Q .$

$CT = 4k + 9\left(\frac{4k}{9}\right)$

$CT = 8k$

$CT = 8\left(\frac{3}{4} Q\right)$

$\boxed{CT = 6Q}$

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④ $CT = 6Q$

- $CM = \frac{CT}{Q} = 6$
- $Cmg = CT' = 6$

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⑤ $\Pi = RT - CT$

$\Rightarrow \Pi = P . Q - 6Q$

$\Rightarrow \Pi = (10)(20) - 6(20)$

$\Rightarrow \Pi = 200 - 120$

$\Rightarrow \boxed{\Pi = 80DA}$