(A) $TR = (100 - q)q = 100q - q^2$

$MR = 100 - 2q$

$MC = 20$

(B) $\frac{40 \times 40}{2} = 80$

(C) $\frac{P - MC}{P} = 0.67$

(D) $TL = (100 - q^2 - (30 + 20q) - 10q$

$\frac{d\pi}{dq} = -2q + 70 \quad TL = 1195$

(F) $TL = 1570 - 1000 = 570$

(G) $TL = 1570(1 - 0.2) = 1256$

(E) $P^* = \frac{550}{q}$

(H) $P = MC$

5. $\frac{P - MC}{P} = \frac{1}{E} \quad P = 4MC \quad \frac{4MC - MC}{4MC} \rightarrow \frac{3}{4} = \frac{1}{E} \quad E = \frac{4}{3}$

6. $P = a - bq \quad MR = a - 2bq$

$P^* = a - \frac{a - (k+t)}{2} = \frac{a + (k+t)}{2} \quad P = \frac{a+k}{2} \quad P^* = \frac{1}{2}T^*$

7. $MC_A = MC_B = MR$

$q_A = 40 \quad q_B = 20 \quad P = 220$