

$$D: pq = 100 + 2q$$

$$50q = 100 + 2q$$

$$\begin{array}{r} -2q \\ \hline 48q = 100 \end{array}$$

$$\frac{48q}{48} = \frac{100}{48} \rightarrow q \approx 2.083$$

quantity demanded

$$q_{dem} < q_{sup}$$

~~so the price will rise~~

« there is surplus, so the price will fall »

b) If a tax of \$5 is levied. Find the equilibrium point.

$$D: pq = 100 + 2q \quad \text{للطلب بالعملة}$$

$$S: p = \frac{40 + q}{2} + 5 \quad \text{بالتكاليف بالعملة}$$

Eq. point $D = S$

$$D: pq = 100 + 2q \rightarrow p = \frac{100 + 2q}{q}$$

$$D = S$$

$$\frac{100 + 2q}{q} = \frac{40 + q}{2} + 5$$

$$\frac{100 + 2q}{q} = \frac{40 + q + 10}{2} \Rightarrow \frac{100 + 2q}{q} = \frac{50 + q}{2}$$