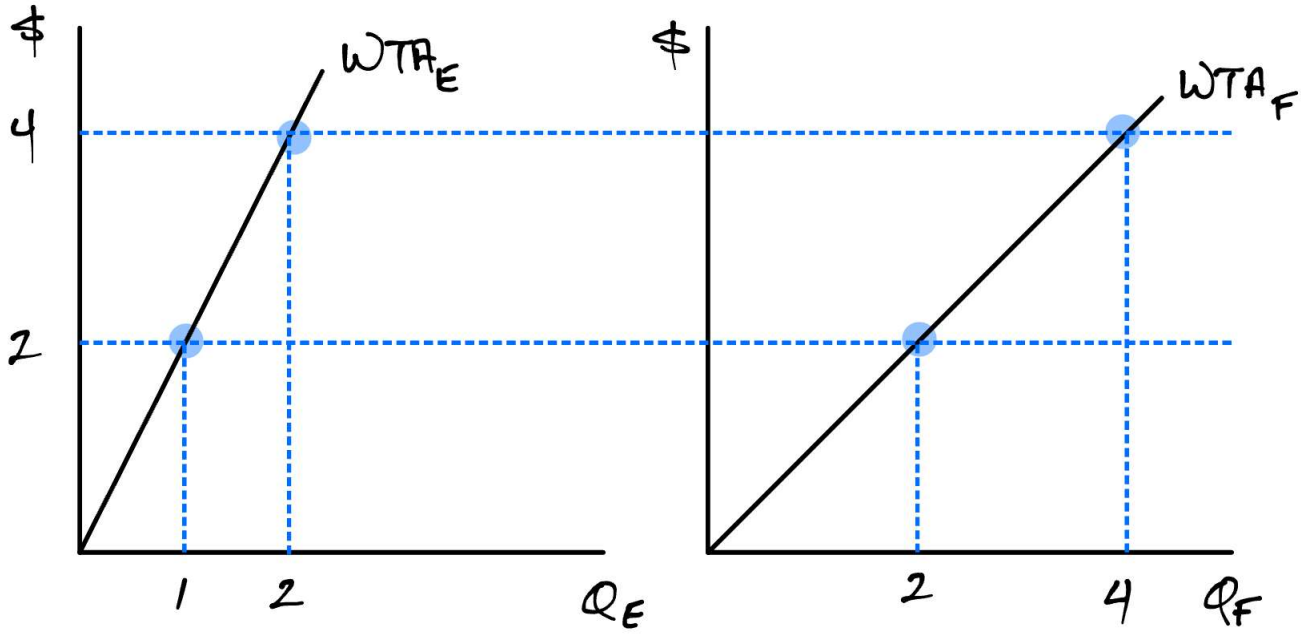
# Adding Supply

Two sellers:

E $WTA_E = 2Q_E^S$

F $WTA_F = Q_F^S$

Graphing:



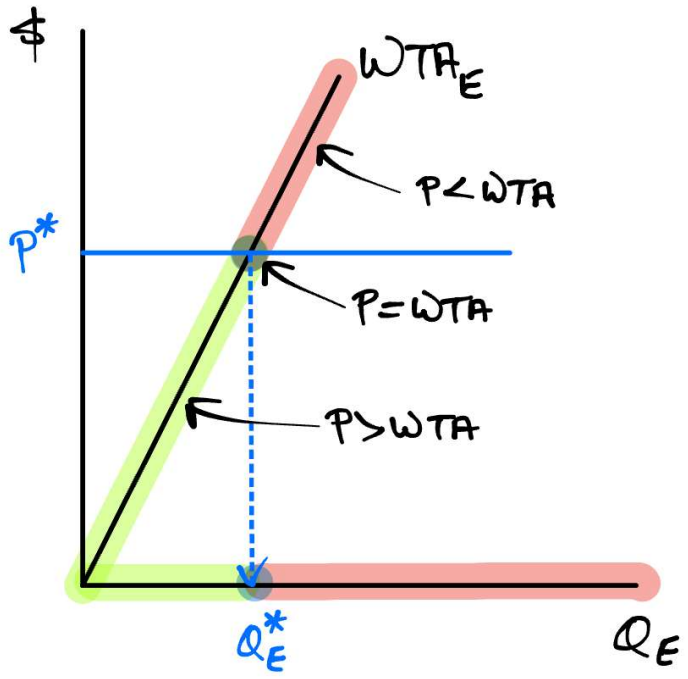

For each P, how much will seller E offer, $Q_E^S$?

Decision rules:

- Sell if $P \geq WTA_E$
- Don't sell if $P < WTA_E$

Result: $Q_E^*$ is where WTA crosses P:

$WTA_E(Q_E^*) = P$




Use to derive E's supply equation $Q_E^S(P)$

WTA equation: $WTA_E = 2Q_E^S$

Decision rule: $WTA_E = P$

Eliminating $WTA_E$:

$$P = 2Q_E^S$$

$$Q_E^S = \frac{1}{2}P$$

Seller F's supply:

$WTA_F = Q_F^S$
$WTA_F = P$

Solving:

$$P = Q_F^S$$

$$Q_F^S = P$$

Finding the market supply:

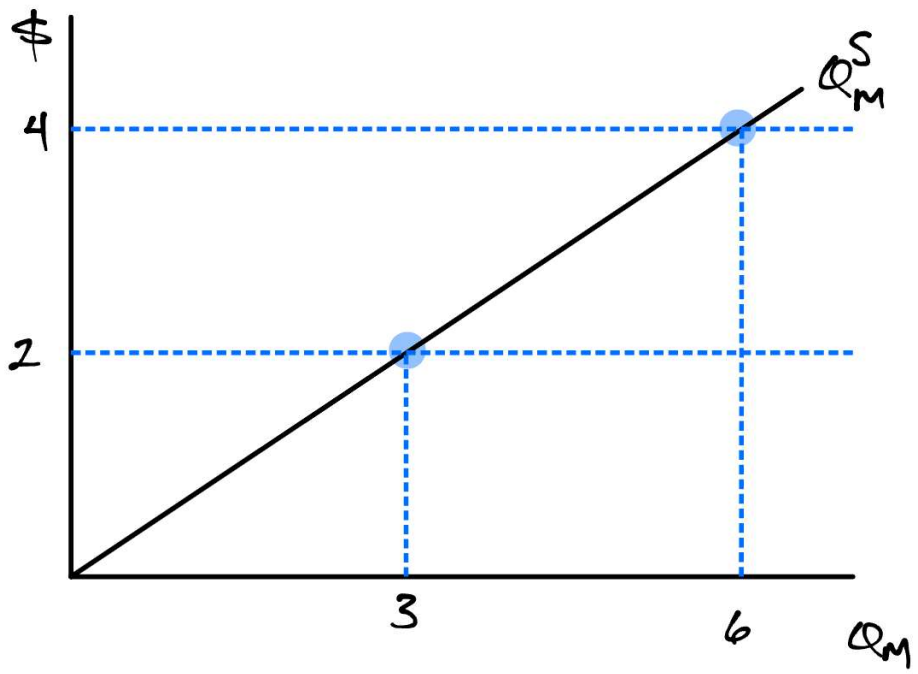
$$Q_M^S = \sum_i^N Q_i^S$$

$$Q_M^S = Q_E^S + Q_F^S$$

$$Q_M^S = \left(\frac{1}{2}P\right) + (P)$$

$$Q_M^S = \frac{3}{2}P$$

Graphing:




Reversing to find $WTA_M$:

$$Q_M^S = \frac{3}{2}P$$

$$WTA_M = P$$

$$Q_S^M = \frac{3}{2}WTA_M$$

$$WTA_M = \frac{2}{3}Q_M^S$$

Gives the WTA for any given Q:

Example: WTA for unit 15?

$$\mathrm{WT}A_M = \frac{2}{3} * 15 = \$10$$