Ex 1

$$Q^D = 800 - 32P$$

$$32P = 800 - Q \Rightarrow \boxed{P = \frac{800}{32} - \frac{Q}{32}}$$

Ex 2.

$$P = 20 - \frac{20}{100}Q$$

$$\boxed{P = 20 - \frac{1}{5}Q}$$

$$ATC = \frac{TC}{Q}$$

$$\Rightarrow TC = ATC * Q$$

$$\Pi = TR - TC = PQ - ATC \cdot Q = (P - ATC) \cdot Q$$

$$\Pi = (12 - 4) \cdot 40$$

Ex 3.

$$\boxed{MR = MC}$$

PERFECT COMPETITION

$$P = MR \Rightarrow P = MC$$

Inv. demand

$$\Rightarrow P = 1 - \frac{1}{100}Q$$

$$\frac{1}{10} = 1 - \frac{1}{100}Q$$

$$\frac{10}{10} - \frac{1}{10} = \frac{9}{10}$$