

TEORIA ECONOMICA II

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SUGGESTED SOLUTIONS

2. a) w ;

b) $\pi^y = (10 - y)y - wy^2 = (10 - \sqrt{L})\sqrt{L} - wL$;

c) $p_y = 10 - 5/(w + 1)$, $L = 25/(w + 1)^2$, $y = 5/(w + 1)$, $\pi^y = 25/(w + 1)$.

3. a) Profit function is $p(y)y - wy$; optimal output is $y = 1001 - 0.5w = 1000$ and quantity $x = 1000$ since $y = x$. Level of employment: The quantity x demanded is 1000, so $1000 = 2L$ yields $L = 500$; the entire population of the small town is employed by the small firms producing x .

b) Profit function is $p(y)y - ky$; total amount of final product is $y = 500$ and $x = 500$ (first compute optimal quantity of G-Dis: $y = 1001 - 0.5k$ that gives the inverse demand function of Ferdi: $k = 2002 - 2x$; the maximum of profits for Ferdi is obtained when $x = 500$). Level of employment in the small town is $L = 250$.

c) Optimal output: marginal revenue=marginal cost implies $3000 - 2y = w$, then $y = 1000$. Level of employment is $L = 500$.