RLP-ECON · RLP Economics — Principles of Economics

Unit 2: Firms, Competition and Labor

Practice Workbook. The same problems, in the same order, as the Practice sections of the online lessons.

Name _____ Period _____

Lesson 2.1 — Competition, Profit and Entrepreneurship

FLUENCY

1. Classify each market: (a) wheat farming; (b) neighborhood restaurants; (c) wireless carriers; (d) local water supply.

2. A shop owner has revenue of $180,000 and pays $120,000 in costs. She gave up a $55,000 salary elsewhere and could earn 5% on the $40,000 of savings she put in. Find accounting profit and economic profit.

3. Name three barriers to entry.

4. What does the Sherman Act (1890) prohibit?

APPLICATION

5. A Kansas City food truck takes in $96,000 a year and spends $71,000 on food, fuel, permits and a helper. The owner could earn $30,000 a year managing a restaurant. Is the truck profitable in the economic sense? What should the owner consider?

6. In an illustrative local market for boba tea, Qd = 2,000 − 50P and Qs = −400 + 70P (drinks a day). High profits draw new shops, and supply becomes Qs = −100 + 70P. Find both equilibria and explain what profit did.

7. Illustrative market shares for the four largest meatpackers buying hogs in a region: 28%, 22%, 18%, 14%, with the rest spread among small firms. What is the four-firm concentration ratio, and what market structure does it suggest? What evidence would test a claim that the market is uncompetitive?

8. When Japanese automakers entered the U.S. market, suppose (illustrative) prices fell $1,500 on 500,000 cars a year, and 8,000 U.S. auto jobs were lost. How much did buyers save in a year, and why are the costs harder to see than the benefits?

CHALLENGE

9. A student starts a phone-case business: fixed costs $3,000 a month, price $12, and $5 of materials per case. How many cases a month to break even on accounting costs? If she counts the $2,500 a month she could earn elsewhere, how many for zero economic profit?

10. A platform company says: "Our market is competitive — anyone can build an app." What evidence would test this claim?

REVIEW

11. Qd = 600 − 20P and Qs = −150 + 30P. Find equilibrium.

12. A drought reduces supply. What happens to price and quantity?

Lesson 2.2 — Location Lab — Why Farms, Factories, Ports and Stores Are Where They Are

FLUENCY

1. Should an ore smelter, whose raw material loses most of its weight in processing, locate near the mine or near customers?

2. Define agglomeration economies and give a Missouri example.

3. Name two functions of financial markets from the lesson.

4. Why does a specialty store need a larger market area than a grocery store?

APPLICATION

5. A cannery turns 6 tons of tomatoes into 1 ton of paste. Shipping costs $0.20 per ton-mile for tomatoes and $0.25 for paste. The fields are 150 miles from the city where paste is sold. Compare shipping costs for a cannery at the fields and one in the city. Where should it locate?

6. A logistics firm needs 500,000 sq ft. Illustrative rents: $1.80 per sq ft a month near the river terminals in St. Louis, $1.10 farther out along I-70 in St. Charles County. Farther out, it pays about $120 more per truck trip, with 1,500 trips a month. Which location is cheaper, and by how much a month?

7. A grocery store needs $15 million a year in sales. Each household spends $6,000 a year on groceries, and the store expects to capture 25% of that. How many households must live in its market area?

8. In a drought, water rises from $300 to $1,200 per acre-foot (illustrative). Crop A uses 3 acre-feet an acre and earns $2,500 an acre before water; crop B uses 4.5 and earns $6,000. Compute profit per acre for each crop at each price. What will growers do?

CHALLENGE

9. A firm plans a $20 million warehouse expected to return 6% a year. It can borrow by issuing bonds at 5%. What is the annual interest, and what happens to the project if its borrowing rate rises to 7%?

10. A software firm in Kansas City pays (illustrative) $40,000 a year more per worker in rent and wages than it would in a small town, but each worker produces $65,000 more there. Should it stay? What explains the productivity gap?

REVIEW

11. A drought cuts water for farms. Which curve shifts for corn, and what happens to price?

12. Positive or normative: "Farms should get water before cities."

Lesson 2.3 — Deliberation Lab — Unions, the Minimum Wage and Missouri's $15 Floor

FLUENCY

1. Why is the minimum wage called a price floor?

2. At Missouri's $15.00 minimum wage, what does a worker earn for a 30-hour week?

3. What did the National Labor Relations Act (1935) guarantee, and which group did it leave out?

4. What right does Article I, Section 29 of the Missouri Constitution of 1945 state?

APPLICATION

5. An illustrative local labor market: labor demanded Ld = 1,000 − 20W and labor supplied Ls = −200 + 40W (workers, W in dollars an hour). Find the market wage and employment. Then a minimum wage of $22 is set. What does the simple model predict?

6. Missouri's minimum wage rose from $13.75 to $15.00 on January 1, 2026. What is the percent raise for a worker paid the minimum? At 25 hours a week, how much more is earned in a week and a year (52 weeks)? If labor is 30% of a restaurant's costs (illustrative) and the whole increase is passed on in prices, how much would a $10 meal rise?

7. Study A compares fast-food employment in Missouri before and after January 2026 with fast-food employment in states whose minimum wage did not change. Study B compares Missouri fast-food employment with Missouri's own employment ten years earlier. Which has the stronger counterfactual, and why?

8. Workers strike for 3 weeks, giving up $24 an hour for 40 hours a week, and win a raise of $1.50 an hour. How many weeks of work does it take to recover the lost pay?

CHALLENGE

9. Explain two reasons from the lesson why a moderate minimum-wage increase might cause small or no job losses, despite the simple model.

10. A store employs 12 workers for 30 hours a week at $13.75. The wage rises to $15.00 and the owner keeps the weekly wage bill fixed. How many total hours can be paid for? Give two ways this could appear in data, and explain why a study must measure hours as well as jobs.

REVIEW

11. In the Lesson 1.2 bicycle market, a price floor of $20 creates what?

12. Opportunity cost of a 4-hour unpaid internship for someone who could earn $18 an hour?

Lesson 2.4 — Workshop — Wages, Productivity, Skills and Technological Change

FLUENCY

1. A warehouse crew ships 480 orders in a 40-hour week. What is its productivity per hour?
2. Why might an oil-rig night-shift job pay more than a day office job needing similar skills?
3. Define human capital.
4. Do most U.S. workers today work in services or in manufacturing?

APPLICATION

5. An extra warehouse worker lets a firm ship 30 more orders an hour, each adding $1.10 of revenue after materials. What is the most the firm would pay per hour? Would it hire at $22?

6. Median annual pay in Missouri (BLS Occupational Employment and Wage Statistics, May 2025): registered nurse $81,780; nursing assistant $37,680. Convert each to an hourly rate (2,080 hours a year) and explain the gap using the unit's concepts.

7. Median weekly earnings in 2025 (BLS, full-time workers aged 25 and over): high-school diploma $966, bachelor's degree $1,578. What is the annual gap, and the gap over a 40-year career in today's dollars (ignoring raises and discounting)? Give two reasons education raises pay.

8. A bank branch has 6 tellers handling 1,200 transactions a day. New technology lets 4 tellers handle 1,400. What happens to transactions per teller, and what does this show about technology and jobs?

CHALLENGE

9. Skill-biased technological change: new software raises demand for data analysts and lowers demand for routine data-entry clerks. Describe the shift in each labor market and the effect on wages and employment.

10. A tutor earns $40 an hour teaching 1 student at a time, 30 hours a week. An online course sells to 20,000 students at $15 each. Compare weekly tutoring revenue with the course's total revenue, and explain the superstar effect.

REVIEW

11. Qd = 1,500 − 25P and Qs = −300 + 35P. Find equilibrium.

12. What is the opportunity cost of a two-year training program for someone who would otherwise earn $36,000 a year, if tuition totals $3,000?

Unit 2 checkpoint

1. Which market is closest to an oligopoly?
   A. Wheat farming
   B. Neighborhood restaurants
   C. Wireless carriers
   D. Local water supply
2. Revenue $90,000, costs $60,000, and the owner gave up a $35,000 salary: accounting profit is $ _____ and economic profit is $_____.
3. True or false: High profits in a market tend to attract new firms, which lowers prices.
4. Why do warehouses cluster in St. Charles County, west of St. Louis on I-70, more than in St. Louis city?
   A. Cheaper land within reach of interstates and the metro's customers
   B. The city forbids them
   C. Customers live only in St. Charles County
   D. Weather
5. An industry whose raw materials lose weight in processing tends to locate:
   A. Near customers
   B. Near its raw materials
   C. At random
   D. Near ports only
6. True or false: Financial markets play no role in where factories are built.
7. A minimum wage is a price _____ in the labor market; Missouri's rate for 2026 is $ _____ an hour.
8. Ld = 1,000 − 20W, Ls = −200 + 40W. The market wage is:
   A. $15
   B. $20
   C. $22
   D. $25
9. True or false: Economists agree every minimum-wage increase causes large job losses.
10. Extra pay for dangerous or unpleasant work is called:
    A. Human capital
    B. A compensating differential
    C. A price ceiling
    D. Productivity
11. A worker who ships 300 orders in 25 hours has a productivity of _____ orders an hour.
12. Skill-biased technological change raises demand for:
    A. Routine-task workers
    B. Workers who can use the new technology
    C. All workers equally
    D. No workers