

Name: _____

Honor Pledge Signature: _____

Section: _____

Instructions and Rules:

- This exam has 15 multiple choice questions, 1 short answer question, and 1 extra credit question.
- The multiple choice questions are worth 60 points (4 each), the short answer question is worth 40 points, and the extra credit question is worth 5 points. The total number of points possible for this exam is 105.
- You are allowed the use of a calculator but you may not use notes, books, cell phones, or any electronic device. You may not talk with other students or look at exam papers of other students.
- Please record your multiple choice answers on the “Multiple Choice Answers” page. Space has been provided for you to show your work on the short answer question.
- If you believe there is no right answer or more than one right answer to any question, explain your reasoning on the “Appeals” page. I will not consider an appeal unless you have recorded your argument on the exam sheet during the exam period.
- When you have finished the review, sign the Honor Code Pledge.

Multiple Choice Questions

1: Multiple Choice

Which of the following is a true statement about real and nominal GDP?

- (a) If nominal GDP increases from one year to the next, we know that production of goods and services has risen.
- (b) Nominal GDP is a better measure than real GDP in comparing changes in the production of goods and service year after year.
- (c) Increases in average prices do not affect the calculation of nominal GDP.
- (d) **If real GDP increases from one year to the next, we know that production of goods and services has risen.**

2: Multiple Choice

A consumer price index of 160 in 1996 with a base year of 1983 would mean that the cost of the market basket

- (a) equaled \$160 in 1996.
- (b) equaled \$160 in 1983.
- (c) rose 160% from the cost of the market basket in the base year.
- (d) **rose 60% from the cost of the market basket in the base year.**

3: Multiple Choice

If the number of unemployed workers is 19 million, the number in the working-age population is 500 million, and the unemployment rate is 4%, what is the labor force participation rate?

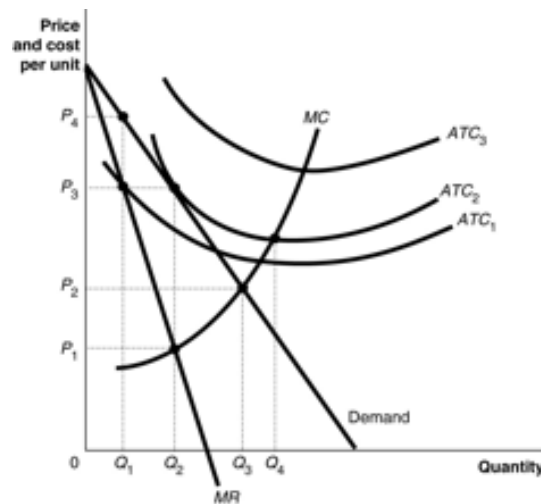
- (a) 4.75%
- (b) 7.8%
- (c) **95%**
- (d) 96.2%

4: Multiple Choice

An inflation rate of 5% between 2013 and 2014 would be implied by a change in the GDP deflator from _____ in 2013 to _____ in 2014.

- (a) 105; 115
- (b) 200; 205
- (c) 400; 420
- (d) 375; 390

5: Multiple Choice



To maximize profit, the firm will produce

- (a) Q_1
- (b) Q_2
- (c) Q_3
- (d) Q_4

6: Multiple Choice

Refer to Graph From Question 5. If the firm's average total cost curve is ATC₁, the firm will

- (a) suffer a loss.
 - (b) break even.
 - (c) **make a profit.**
 - (d) face competition.
-

7: Multiple Choice

Jason, a high-school student, mows lawns for families in his neighborhood. The going rate is \$12 for each lawn-mowing service. Jason would like to charge \$20 because he believes he has more experience mowing lawns than the many other teenagers who also offer the same service. If the market for lawn mowing services is perfectly competitive, what would happen if Jason raised his price?

- (a) He would lose some but not all his customers.
 - (b) Initially, his customers might complain but over time they will come to accept the new rate.
 - (c) **If Jason raises his price he would lose all his customers.**
 - (d) If Jason raises his price, then all others supplying the same service will also raise their prices.
-

8: Multiple Choice

Which of the following transactions would take place in the "underground economy"?

- (a) Elizabeth tells her mother she's going to work but really goes to see a movie.
- (b) Paul buys 15 gallons of gasoline for \$3.29 a gallon, not realizing that \$1.50 per gallon of that price goes to the government as tax revenue.
- (c) **John makes chain-link belts and necklaces and sells them at a local flea market for cash to avoid paying taxes.**
- (d) Matt bought an iPad for \$499 but decided to sell it on eBay instead of keeping it.

9: Multiple Choice

Monthly expenditures for a family of 4 in 2012 averaged \$1,400. In 2013, the cost of the same purchases was \$1,500. If 2012 is the base year, what was the CPI in 2013?

- (a) 110
 - (b) 107
 - (c) 100
 - (d) 93
-

10: Multiple Choice

Which of the following is an example of a worker experiencing frictional unemployment?

- (a) A worker quits his job at the Post Office to find more interesting work.
 - (b) A computer programmer loses her job because it is outsourced to India.
 - (c) An employee is laid off because the economy is suffering a recession.
 - (d) A United Airlines pilot loses her job because of lack of demand for air travel.
-

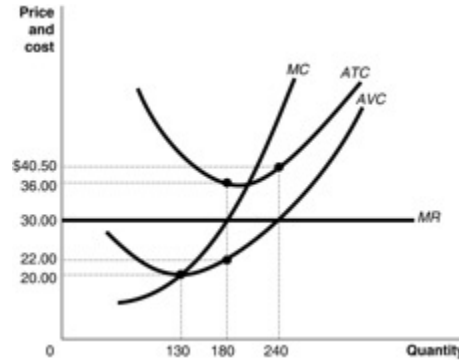
11: Multiple Choice

Minimum wage laws cause unemployment because the legal minimum wage is set

- (a) below the market wage, causing labor demand to be greater than labor supply.
- (b) below the market wage, causing labor demand to be less than labor supply.
- (c) above the market wage, causing labor demand to be greater than labor supply.
- (d) above the market wage, causing labor demand to be less than labor supply.

12: Multiple Choice

The following figure shows the cost and demand curves for a profit-maximizing firm in a perfectly competitive market.



If the market price is \$30, the firm's profit-maximizing output level is

- (a) 0.
- (b) 130.
- (c) 180.
- (d) 240.

13: Multiple Choice

Refer to Figure From Question 12. If the market price is \$30 and the firm is producing output, what is the amount of the firm's profit or loss?

- (a) loss of \$1,080
- (b) profit of \$1,440
- (c) loss of \$2,520
- (d) profit of \$1,300

14: Multiple Choice

Refer to Figure From Question 12. What is the amount of its total fixed cost?

- (a) \$1,080
- (b) \$1,440
- (c) \$2,520
- (d) It cannot be determined.

15: Multiple Choice

Caroline is an artist. She purchases canvas, paints, brushes, and accessories for \$75. She sells one of her original paintings to an art gallery for \$1,500, even though an art lover would pay \$4,500 for that painting. How much value does Caroline add?

- (a) \$75
- (b) **\$1,425**
- (c) \$1,500
- (d) \$4,425

Short Answer Question (40 points)

1: Short Answer (10 points)

Suppose that patents are currently given for seventeen years and that Congress were to consider a bill to reduce the current seventeen-year life of patents to ten years. What negative effects might this change have on innovation? What positive effects might this have for the economy?

If firms discover a new product or a new better way to make an existing product they can patent their development and be protected from competition for 17 years. The prospect of being able to obtain monopoly profits for 17 years induces firms to invest in R&D and innovate. If firms were to receive patent protection for only 10 years they would have less of an incentive to innovate (since their gains would be smaller) and the rate of innovation might decline. However, if patent protection were limited to ten years, consumers would be aided since competition would be introduced earlier and the firm would only be able to charge monopoly prices for 10 years instead of 17.

2: Short Answer (10 points)

Describe **two** firms that you think are monopolies. What are the characteristics (what is the “barrier to entry”) that make them monopolies?

A monopoly is an industry with only one seller and there are no good substitutes for the product of the monopolist. Some examples of monopolies: Local utility companies. Residents of Davidson can only purchase electricity from Duke Energy, gas from PSNC, and water from Charlotte-Mecklenburg Public Services. Because of economies of scale associated with the provision of these services (mostly the large fixed costs associated with wiring the community and low marginal cost of providing service to an additional customer), these utilities have been granted local monopolies, but the prices they are allowed to charge are typically regulated by the government. Microsoft has a monopoly on the production of operating systems for PC machines. This monopoly is partly the result of copyright protection that prevents firms from simply copying and selling Microsoft Windows. DeBeers has a near monopoly on the production of diamonds, owning or controlling most of the world’s diamond mines (though this monopoly is beginning to erode).

3: Short Answer (10 points)

Year	Nominal Minimum Wage	CPI (1982 as Base Year)
1974	\$2.00	49.3
2012	7.25	224.9

The table above lists the actual minimum wage and CPI in 1974 and in 2012. Using the above table, calculate the real minimum wage for 1974 and 2012. Calculate the rate of growth of the real minimum wage from 1974 to 2012. Are workers better off in terms of the purchasing power of a dollar in 1974 or 2012? Explain why.

The real minimum wage in 1974 is $\frac{\$2}{49.3} \times 100 = \4.06 . The real minimum wage in 2012 is $\frac{\$7.25}{224.9} \times 100 = \3.22 . The rate of growth of the real wage from 1974 to 2012 is $\frac{\$3.22 - \$4.06}{\$4.06} \times 100 = -20.7\%$. Workers who earned the minimum wage were better off in 1974 as compared to 2012. The value of the real minimum wage was higher in 1974. It has declined by 20.7% from 1974 to 2012.

4: Short Answer (10 points)

	2012	2013
Nominal GDP	\$10,000	\$15,000
Real GDP	9,500	10,500

Given the following information, calculate the rate of increase in the price level from 2012 to 2013 by using the percent change in the GDP deflator.

To calculate the rate of change of prices, the GDP deflator for 2012 and 2013 must be determined. The GDP deflator for 2012 = $\frac{10,000}{9,500} \times 100 = 105.3$. The GDP deflator for 2013 = $\frac{15,000}{10,500} \times 100 = 142.9$. Thus, the rate of increase in the price level is $\frac{142.9-105.3}{105.3} = 35.7\%$

Extra Credit Question

Extra Credit: (5 points)

Draw the demand curve faced by a firm in a perfectly competitive market.

Flat—horizontal.