

This is a ten point quiz. Answer all questions neatly and legibly. Show your work.

1. Consider the following data:

Year	CPI with base year 2008
2006	50
2007	75
2008	100

a. (1 point) Suppose you have been asked to provide new values for the CPI using 2006 as the base year. Fill in the following table with these new values.

Year	CPI with base year 2006
2006	
2007	
2008	

Answer:

Year	CPI with base year 2006
2006	$(50/50)*100 = 100$
2007	$(75/50)*100 = 150$
2008	$(100/50)*100 = 200$

b. (1 point) True or False? Given the above information, the annual rate of inflation between 2006 and 2007 and between 2007 and 2008 are the same.

- a. True
- b. False

Answer:

False.

Rate of inflation between 2006 and 2007 = $[(75 - 50)/50]*100\% = 50\%$

Rate of inflation between 2007 and 2008 = $[(100 - 75)/75]*100\% = 33\%$

c. (1 point) What is the rate of inflation between 2007 and 2008? Show your work for full credit.

Answer:

Rate of Inflation between 2007 and 2008 = $[(100 - 75)/75]*100\% = 33\%$ using 2008 as the base year.

Or,

Rate of Inflation between 2007 and 2008 = $[(200 - 150)/150]*100\% = 33\%$ using 2006 as the base year.

2. (1 point) The income elasticity of demand for doughnuts is -1.5. This tells us that doughnuts are _____. If incomes decrease by 20% we can expect that the quantity of doughnuts demanded will _____.

- a. an inferior good; fall by 30%
- b. an inferior good; rise by 30%**
- c. a normal good; fall by 10%
- d. a normal good; rise by 10%

3. (1 point) The cross price elasticity of good X for good Y is a negative number. This tells us that when the price of good Y decreases, then:

- a. The quantity demanded of good Y will increase.
- b. The quantity demanded of good X will increase.**
- c. The demand curve for good X will shift to the left.
- d. The demand curve for good Y will shift to the left.

4. (4 points) Josie has the following information about three job offers.

Job in Minneapolis	Pays \$42,000	Local CPI = 140
Job in Cleveland	Pays \$39,000	Local CPI = 130
Job in San Francisco	Pays \$80,000	Local CPI = 200

If purchasing power is the sole criterion for selecting a particular job, which job should Josie take and why? Explain your reasoning and show any work needed to come to your conclusion. Fill in the table below as well.

Job	Value of job adjusted for local CPI
Job in Minneapolis	
Job in Cleveland	
Job in San Francisco	

He should take the job in _____.

Answer:

First, we need to compute the value of each job offer using the local CPI values: to do this use the formula

$$\text{Real purchasing power} = [\text{Nominal Salary}/\text{Local CPI}] * (\text{scale factor})$$

$$\text{Minneapolis job} = [42,000/140](100) = \$30,000$$

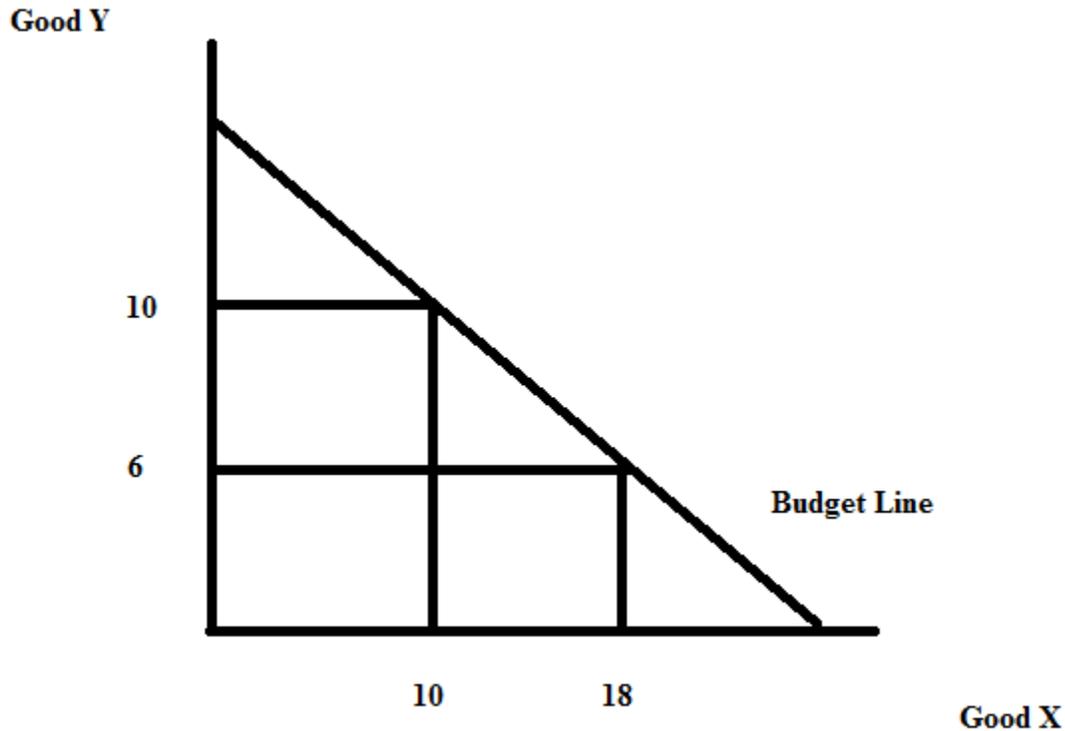
$$\text{Cleveland job} = [39,000/130](100) = \$30,000$$

$$\text{San Francisco job} = [80,000/200](100) = \$40,000$$

Job	Value of job adjusted for local CPI
Job in Minneapolis	Minneapolis job = [42,000/140](100) = \$30,000
Job in Cleveland	Cleveland job = [39,000/130](100) = \$30,000
Job in San Francisco	San Francisco job = [80,000/200](100) = \$40,000

Take the San Francisco job!

5. (1 point) John's budget line for goods X and Y is given in the following graph:



You are told that the price of good X is \$5 and the price of good Y is \$10.
What is the X-intercept of this budget line? Show how you found your answer.

Answer:

First we need to find out John's income. We know two points on John's budget lines: $(X, Y) = (10, 10)$ and $(18, 6)$. What does either consumption bundle cost?

$(10 \text{ units of good X})(\$5 \text{ per unit of good X}) + (10 \text{ units of good Y})(\$10 \text{ per unit of good Y}) = \150

$(18 \text{ units of good X})(\$5 \text{ per unit of good X}) + (6 \text{ units of good Y})(\$10 \text{ per unit of good Y}) = \150

John's income is \$150. If he spends all of his income on good X he can afford $(150)/(\$5 \text{ per unit of good X}) = 30$ units of good X. So, the X-intercept of his budget line is 30 units of good X.