Economics 101 Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Spring 2020

Quiz # with Answers

March 24, 2020 (extra quiz) TA/Discussion Section Number \_\_\_\_\_\_\_\_\_\_\_\_\_\_

All quizzes will be graded on a 10 point scale: you will get two points simply by being on time to class and putting your name on the quiz for that day. The remaining eight points are based upon your answers to the quiz questions.

1. Consider a country that has the following information about their consumer price index (CPI):

|  |  |
| --- | --- |
| **Year** | **CPI** |
| Year 1 | 80 |
| Year 2 | 100 |
| Year 3 | 120 |

a. (2 points) Given the above information, the inflation rate was the lowest between (circle one answer). Show your work to get full credit for this question.

Year 1 and Year 2

Year 2 and Year 3

Year 1 and Year 3

Answer:

Calculate the rate of inflation:

Rate of inflation = [(new value – old value)/(old value)]\*(100%)

Rate of inflation between Year 1 and Year 2 = [(100 – 80)/80]\*(100%) = 25%

Rate of inflation between Year 2 and Year 3 = [(120 – 100)/100]\*(100%) = 20%

Rate of inflation between Year 1 and Year 3 = [(120 – 80)/80]\*(100%) = 50%

Answer: Year 2 and Year 3

b. (2 points) In Year 4 you are told that the rate of inflation from Year 3 to Year 4 was 25%. From this you know that the CPI value for Year 4 is \_\_\_\_\_\_. Show how you found your answer in an organized, easy to follow manner.

Answer:

Rate of inflation = [(new value – old value)/(old value)]\*(100%)

25% = [(X – 120)/120]\*(100%) where X is the CPI value for Year 4

¼ = [(X – 120)/120]

30 = X – 120

X = 150

CPI value for Year 4 is 150 if the rate of inflation from Year 3 to Year 4 is 25%.

2. Consider Sam who has three job offers for exactly the same kind of work in New York City, Seattle, and Detroit. You are provided the following information:

|  |  |  |
| --- | --- | --- |
| **Location of job offer** | **Nominal Annual Salary Offer** | **CPI for location** |
| New York City | $54,000 | 90 |
| Seattle | $60,000 | 100 |
| Detroit | $42,000 | 60 |

a. (2 points) From this information fill in the following table. To get full credit provide the work you did to get your answers.

|  |  |  |
| --- | --- | --- |
| **Location of job offer** | **Nominal Annual Salary Offer** | **Real Annual Salary Offer** |
| New York City | $54,000 |  |
| Seattle | $60,000 |  |
| Detroit | $42,000 |  |

Answer:

To calculate the missing values you need to use the following formula:

Real Annual Salary = [(Nominal Salary)/(CPI measure for the city)]\*(scale factor)

So:

Real Annual Salary in New York City = [(54,000)/(90)]\*(100) = $60,000

Real Annual Salary in Seattle = [(60,000)/(100)]\*(100) = $60,000

Real Annual Salary in Detroit = [(42,000)/(60)]\*(100) = $70,000

|  |  |  |
| --- | --- | --- |
| **Location of job offer** | **Nominal Annual Salary Offer** | **Real Annual Salary Offer** |
| New York City | $54,000 | $60,000 |
| Seattle | $60,000 | $60,000 |
| Detroit | $42,000 | $70,000 |

b. (2 points) If purchasing power for the year is all that Sam cares about, which job offer should Sam take? Explain your answer.

Answer:

If purchasing power is all that Sam cares about then he should take the job in Detroit since it results in his having the greatest purchasing power from his annual salary.