

Ec306 Homework 3

1. Marsha Mellow is very flexible. She consumes x and y . She says ‘Give me x or give me y , I don’t care. I can’t tell the difference between them.’ She is currently endowed with 14 units of x and 6 units of y . The price of x is 4 times the price of y . Marsha can trade x and y at the going prices, but has no other source of income. How many units of y will Marsha consume?
 - a 66
 - b 20
 - c 62
 - d 6
 - e 31
2. Will Wisp will live for exactly two periods. His utility function is $U(c_1, c_2) = c_1 c_2$ where c_1 is consumption in period 1 and c_2 is consumption in period 2. He will have no income in period 2. His income in period 1 is 80,000. If the interest rate rises from 10% to 12%:
 - a his savings will increase, and his consumption in period 2 will increase.
 - b his savings will not change, but his consumption in period 2 will increase.
 - c his consumption in both periods will increase.
 - d his consumption in both periods will decrease.
 - e his consumption in period 1 will decrease, and his consumption in period 2 will increase.
3. Art Dreck’s paintings are terribly unpopular now. In fact nobody would pay a dime to have one of his paintings on the wall now. But experts believe that 10 years from now there will be a craze for Dreck paintings. The craze will last for 2 years and then nobody will ever want to see a Dreck again. During this 2 year period, people will be willing to pay \$1,100 a year to have an original Dreck on the wall. The interest rate is r . If the experts’ belief is widely held among investors, today’s market value of a Dreck should be about:
 - a $2,200/r$.
 - b $2,200/(1+r)$.
 - c $1,100(1+r)^{10} + 1,100(1+r)^{11}$.
 - d $1,100/(1+r)^{10} + 1,100/(1+r)^{11}$.
 - e $1,100r + 1,100r^2$.

4. Portia has waited a long time for her ship to come in and she has concluded that it will arrive today with probability $1/4$. If it does come, she will receive \$16. If it doesn't come in today, it never will and she will have zero wealth. She has a (von Neumann-Morgenstern) utility function equal to the square root of her total income. What is the minimum \$ price at which she would sell the rights to her ship?

a 1

b 2

c $\sqrt{2}$

d 4

e None of the above.

This homework is due in class Thurs. Oct. 14.

Please show your reasoning along with your answers.