Assignment 1

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment.

1) Suppose a person likes Delhi (D) but does not like Mumbai (M) then which of the following utility functions would represent her/his utility from visiting Delhi and Mumbai?

- U=D^2M^2
- U=DM
- U=M/D
- U=D/M

No, the answer is incorrect. Score: 0

Accepted Answers: U=D/M

2) A firm with revenue R invests into two softwares to manage employee payroll and training Ora (X) and SAP (Y) in a year. It has a budget of 240K INR to spend. Ora (X) costs 6K INR and SAP (Y) costs 8K INR. What is the simplest budget line equation? (here K means 1000)

- 6K.X + 8K.Y = 240
- 8K.X + 6K.Y = 240
- 6K.X + 8K.Y = R
- 8K.X + 6K.Y = R

No, the answer is incorrect. Score: 0

Accepted Answers: 6K.X + 8K.Y = 240

3) If the firm in question (2) spent her budget on SAP (Y) how many licenses can it buy?

- 30
- 35

Score: 0

Accepted Answers: 30
4) Suppose in a game of rolling a die either you can keep 3INR or roll a die and get money equal to the number that shows (expected payoff 3.5INR). Write utility function for not rolling die.

- $U(3) > U(1)/6 + U(2)/6 + U(3)/6 + U(4)/6 + U(5)/6 + U(6)/6$
- $U(3) = U(1)/6 + U(2)/6 + U(3)/6 + U(4)/6 + U(5)/6 + U(6)/6$
- $U(3) < U(1)/6 + U(2)/6 + U(3)/6 + U(4)/6 + U(5)/6 + U(6)/6$
- None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
- $U(3) > U(1)/6 + U(2)/6 + U(3)/6 + U(4)/6 + U(5)/6 + U(6)/6$

5) Suppose in a game of rolling a die either you can keep 3INR or roll a die and get money equal to the number that shows (expected payoff 3.5INR). What can you say about the form of the utility function based on your answer in question (4)?

- The utility function must be sufficiently concave say $X^{(1/100)}$
- The utility function must be sufficiently convex say $X^{(2)}$
- The utility function is linear $X^1$
- Information insufficient to answer

No, the answer is incorrect.
Score: 0
Accepted Answers:
- The utility function must be sufficiently concave say $X^{(1/100)}$

6) If investors are characterized by decreasing absolute risk aversion (DARA), then _______ 1 point

- The third derivative of the utility function is positive ($U''' > 0$)
- The third derivative of the utility function is positive ($U''' < 0$)
- The third derivative of the utility function is positive ($U''' = 0$)
- None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
- The third derivative of the utility function is positive ($U''' > 0$)

7) Denoting the absolute risk aversion measure by $RA(W)$ and the relative risk aversion measure by $RR(W)$. $W$ is individual’s wealth. $U$ is utility. If $dRA(W)/dw < 0$, we have _______

- DRRA
- CRRA
- IRRA
- None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
- DRRA

8) Suppose $U(W) = W - b*W^2$ then what is the Absolute risk aversion property of utility function $A(W)$ when $W = 3$ 1 point
9) Suppose \( U(W) = W - b*W^2 \) then what is the Relative risk aversion property of utility function \( R(W) \) when \( W = 7 \)

-0.2
-0.25
-0.3
-0.35

No, the answer is incorrect.
Score: 0
Accepted Answers:
-0.2

10) Let the utility function \( U(x) \) given by the constant-absolute-risk aversion function, and the stochastic variable ‘a’ follows a normal distribution, \( N(m, s^2) \) so that \( E[\exp\{ka\}] = \exp\{km + 0.5ks^2\} \), where \( k \) is a constant and \( U(x) = 1 - \exp(-Rx) \), where \( R \) denotes a positive constant. Then \( E[U(x)] = ? \)

- \( 1 - \exp(-Rm + 0.5R^2s^2) \)
- \( 1 + \exp(-Rm + 0.5R^2s^2) \)
- \( -\exp(-Rm + 0.5R^2s^2) \)
- \( +\exp(-Rm + 0.5R^2s^2) \)

No, the answer is incorrect.
Score: 0
Accepted Answers:
\( 1 - \exp(-Rm + 0.5R^2s^2) \)

11) Which of the following is not a property of utility function.

- Precedence
- Transitivity
- Independence
- Continuity

No, the answer is incorrect.
Score: 0
Accepted Answers:
Precedence

12) In the von Neumann-Morgenstern expected utility \( V(F) = E[U(x)] = \int U(x) \, dF(x) \). Here what is \( F(x) \)?

- The lottery’s cumulative distribution function over the payoffs, \( x \)
- The lottery’s cumulative density function over the payoffs, \( x \)
The lottery’s distribution over the payoffs, $x$

The lottery’s density over the payoffs, $x$

No, the answer is incorrect.
Score: 0

Accepted Answers:
The lottery’s cumulative distribution function over the payoffs, $x$

With current wealth $W$ is offered a fair lottery. With the lottery, expected utility is $E[U(W + e)]$. Without it, expected utility is $E[U(W)] = U(W)$.

- Concave utility implies rejecting a fair lottery
- Convex utility implies rejecting a fair lottery
- Any utility function implies rejecting a fair lottery in this case
- None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Concave utility implies rejecting a fair lottery

The negative exponential utility, $U(W) = -e^{-bW}$

- Has constant absolute risk aversion
- Has increasing absolute risk aversion
- Has decreasing absolute risk aversion
- None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Has constant absolute risk aversion

For power utility function $U(W) = (1/n)W^n$ where $n < 1$. What is relative risk aversion $R(W)$?

- $(1-n)/W$
- $W/(1-n)$
- $n$
- $W$

No, the answer is incorrect.
Score: 0

Accepted Answers:
$(1-n)/W$