# TIE4203 Decision Analysis in Industrial & Operations Management
## Assignment #3
### Due: Fri, 18 October 2024 (8 pm)

You may use computing tools or software for your computations but you must show your
workings like the equations to be solved by a solver in your submission.
Submit your solutions at the Drop Box outside the ISEM Department Office at
E1A-06-25 or to the professor or tutor at the end of class meetings.

## Question (Total Marks 50)

Jenny's wealth utility function ($w$ is in dollars) is as follows:

$$u(w) = \begin{cases} \ln(1+w) & w \geq 0 \\ w & w < 0 \end{cases}$$

Jenny current wealth is $600 in cash and she also owns Deal A as follows:
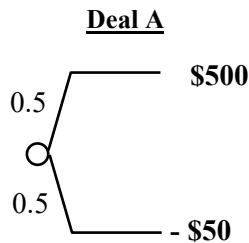
**Deal A**



*(a)*      Determine Jenny's personal indifferent selling price for Deal A.      (10 marks)

*(b)*      What is Jenny's current risk tolerance in dollars?      (5 marks)

*(c)*      Is Jenny current risk-averse, risk-neutral or risk-seeking in attitude?  Explain your answer.      (5 marks)

*(d)*      Jenny is offered Deal B as follows:
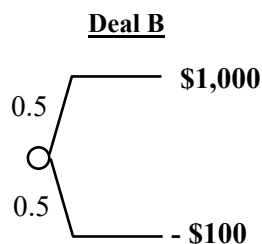
**Deal B**



What is Jenny's personal indifferent buying price for Deal B?      (10 marks)

*(e)*      Jenny buys Deal B for $240 and her wealth is now $360 plus Deal A and Deal B.  Alice offers to buy Deals A and Deal B from Jenny.  Determine Jenny's personal indifferent selling price for Deal A and B as a bundle.      (10 marks)

*(f)*      Alice is **risk neutral** and her current wealth is $1000.  What is the highest price that Jenny is able to sell Deals A and B as a bundle to Alice?  Explain your answer.      (10 marks)