IE5203 Decision Analysis
Assignment #2
Due: Tuesday, 17 October 2023 (end of class)

Instructions: You may use any equation solver or computer software to find the answers after writing down relevant equations to be solved. You may drop your submission into the drop box outside the ISEM Department Office at E1A-06-25 or to the professor at the end of class at LT2.

Question (Total 60 marks)

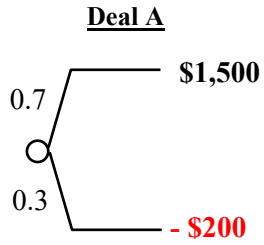
Anna's current wealth is \$2,200 and her wealth utility function where w is in dollars is as follows:

$$u(w) = \begin{cases} \frac{w^2}{100{,}000} & w \geq 0 \\ \frac{-w^2}{100{,}000} & w < 0 \end{cases}$$

(*a*) What is Anna's risk tolerance with her current wealth? (5 marks)

(*b*) Is Anna risk-averse, risk-seeking, or risk-neutral in attitude with her current wealth? (5 marks)

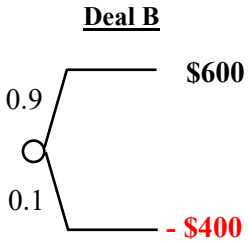
(*c*) Bruce who owns Deal *A* below offers to sell it to Anna.



What is Anna's personal indifferent buying price for Deal *A*? (10 marks)

(*d*) After some hard negotiation, Anna purchased Deal *A* for \$1,000 from Bruce. Anna's wealth now comprises \$1,200 and Deal *A*. Determine Anna's risk tolerance under this situation. (15 marks)

(*e*) Charlie who owns Deal *B* below offers to sell it to Anna who now has \$1,200 and Deal *A*.



What is Anna's personal indifferent buying price for Deal *B*? (15 marks)

(*f*) If Charlie is risk-neutral, would a sale transaction on Deal B be possible between Charlie and Anna? Explain your answer. (10 marks)