

Problem	1	2	Total
Points:	8	40	48
Score:			

This homework assignment has 2 problems, for a total of 48 points.

1. (8 points) Of the following statements, identify all that hold about this e-business
 - A. To build a modern XML-based system as advocated in this course, the main set of APIs we need is for an XML processing tool such as XQuery or XSLT
 - B. Three main abstractions underlying modern information systems are tuples, trees, and templates
 - C. Within an enterprise, different divisions may reasonably be treated as autonomous entities
 - D. Going across enterprises, standardization can permanently remove heterogeneity
2. (40 points) Of the following statements, identify all that are true about concepts of rationality, prices, and markets:
 - A. Prices are understood as scalars for convenience, but they could equally effectively be understood as vectors
 - B. Prices work in markets under the assumption that all agents value the same amount of money equally
 - C. One of the key assumptions for ensuring individual rationality via market mechanisms is that buyers prefer paying lower prices to higher prices and sellers prefer obtaining higher prices to lower prices
 - D. From the standpoint of ensuring optimality, buyers and sellers must be treated symmetrically
 - E. An auction ensures that if there are no buyers willing to pay the current price, the price will come down sooner or later
 - F. Utility functions make sense when money is considered and do not make much sense otherwise
 - G. If two agents each have the same preference relation as the other (over the same finite set of goods), then the two agents would have the same utility function
 - H. Utility theory assumes that agents seek to maximize their expected valuations (in the sense of probability-based lotteries)
 - I. If you are indifferent between A and B and indifferent between B and C , then you must be indifferent between A and C
 - J. If a risk seeking agent prefers a lottery L_1 to a lottery L_2 , then a risk neutral agent would also prefer L_1 to L_2
 - K. If we require bids to be in whole dollar amounts, then an auction whose price is the second highest price plus \$0.50 would be as efficient as the Vickrey auction
 - L. Auction mechanisms handle trades between two parties at a time
 - M. The M^{th} highest price is the N^{th} lowest price
 - N. The McAfee auction is a uniform price mechanism
 - O. An online multiuser gaming site where players can trade points for virtual goods is an example of an endogenous market
 - P. Even though an agent participates in an incentive compatible mechanism, it may not reveal its true valuations
 - Q. The third-price auction for a single item would be incentive compatible for buyers
 - R. The third-price auction for two items would guarantee efficiency and be incentive compatible for buyers
 - S. The first-price auction for two or more items would not be incentive compatible for buyers
 - T. The first-price auction for two or more items would not be efficient