

ECNS 432 ANSWER KEY

Quiz 7
Fall 2018

_____Name

Consider two goods. Good 1 is a consumption good that the consumer owns in the amount w , whereas good 2 is an environmental good (e.g. ice climbing in Hyalite Canyon) that the consumer enjoys. The consumer's preferences on (x_1, x_2) combinations of the two goods are represented by a standard utility function.

Consider two given levels of the environmental good, x_2' and x_2'' , with $x_2'' > x_2' > 0$. Define the consumer's WTP as the max amount of good 1 that the consumer would be willing to part with in exchange for an *increase* in the amount of good 2 from x_2' to x_2'' . Define the consumer's WTA as the minimum amount of good 1 that the consumer would be willing to receive (and add to w) in exchange for a *decrease* in the amount of good 2 from x_2'' to x_2' .

a.) (5 points) Write the equations that implicitly define WTP and WTA.

WTP: $u(w - \text{WTP}, x_2'') = u(w, x_2')$
 WTA: $u(w, x_2'') = u(w + \text{WTA}, x_2')$

b.) (5 points) Illustrate WTP and WTA in the graph below.

