

Quiz 9 (Answer Key)
ECNS 432
Spring 2017

_____Name

(10 points) 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. side-country skiing in the Bridgers) 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' .

Write the equations that implicitly define WTP and WTA.

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

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