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Technical Note on the Joint Receipt of Quantities of a Single Good

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The joint receipt of x and y is the fact of receiving them both. If x and y are objects that are valued their joint receipt is valued as well. Assuming joint receipt is a binary operator that satisfies the conditions of extensive measurement, there is a numerical representation that is additive over joint receipt. We consider the case where x and y are quantities of the same infinitely divisible good. Different set of assumptions are explored. Invariance with respect to multiplication proves to be interesting. Invariance with respect to addition yields a linear form. A relaxation of the latter yields an approximately linear form.