If the Soviets used 1,000 SS-18 warheads and 1,000 SS-19 warheads against the American ICBM forces, the following calculation indicates the outcome.

Example 2

Probability of survival of the targets $= (1-TKP_1)(1-TKP_2)$
From Table 2B TKP SS-19=0.25
TKP SS-18=0.46

$= (1-0.46)(1-0.25)$
$= 0.41$
$= 41\%$

In sum, 41% of the targets could be expected to survive. Alternatively, one may assume that two SS-18 warheads are targeted on each American ICBM:

Example 3

Probability of survival of targets $= (1-TKP_1)(1-TKP_2)$
(TKP SS-18=0.46) $= (1-0.46)(1-0.46)$
$= (0.54)(0.54)$
$= 0.30$
$= 30\%$

Double targeting the SS-18, therefore reduces the survival rate but not dramatically. It can be argued, of course, that the Soviets have enough counterforce capable ICBM warheads to use three or four warheads per target. However, adding more than two warheads to a target mathematically means that each additional warhead will only increase the probability of destroying the target by smaller and smaller increments. In addition, the actual physical effects of the explosion of the first two warheads create an environment in which it is less likely that further incoming warheads would function effectively. Two warheads per target, therefore, is generally regarded as the most efficient allocation of warheads.