

# Assignment #3: Effective Population Size

[A3] Autosomal, X- or Y-linked, and mt

**A3** - For genes that are inherited only through one sex such as mtDNA, cpDNA, and the Y Chromosome, the effective population size for the appropriate sex determines the effect of genetic drift on those genes.

$$N_e = \frac{N_{ef}}{2} \quad \text{or} \quad N_e = \frac{N_{em}}{2}$$

$N_m = 4$ $N_f = 200$	$N_m = 200$ $N_f = 200$	$N_m = 200$ $N_f = 4$
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autosome	$N_e=?$	$N_e=?$	$N_e=?$
chromosome X	$N_e=?$	$N_e=?$	$N_e=?$
chromosome Y	$N_e=?$	$N_e=?$	$N_e=?$
mitochondrial	$N_e=?$	$N_e=?$	$N_e=?$