

**TABLE 9.9****The Sample Size and Variance for Two Hypothetical Samples**

<i>Sample</i>	
1	2
$n_1 = 20$	$n_2 = 20$
$S_1^2 = 12$	$S_2^2 = 18$

Both formulas for pooled sample variance produce the same result when  $n_1 = n_2$ . Only when the sample sizes are unequal is it necessary to weight each sample variance by its respective degrees of freedom.