

$$\overline{x} = \sum_{i=1}^n \frac{x_i}{\sigma_i^2} / \sum_{i=1}^n \frac{1}{\sigma_i^2}$$

$$\sigma_{\overline{x}}^2 = 1 / \sum_{i=1}^n \frac{1}{\sigma_i^2}$$