$$\frac{1}{m}\sum_{i=1}^{m} x_i^2 = \frac{1}{m}\boldsymbol{x}^\top \boldsymbol{x}$$

$$\frac{1}{m}\sum_{i=1}^{m}[(x_i - \mu)^2] = \frac{1}{m}(\boldsymbol{x} - \mu\mathbf{1})^\top(\boldsymbol{x} - \mu\mathbf{1})$$

where $\mathbf{1}$ is an all-one vector (whose dimension is m, implied by $\boldsymbol{x}$).