The given set of observations:

17,30,23,15,12

Here,

sample size, n=5

sumx i

1. we have sample mean,

barx={sumx i}/{n}

Here,

Ssx=sum(x i-barx)^2

we have,

sample variance,

s^2={sum(x i-barx)^2}/{n-1}

∴**sample variance s2 =51.30**

Therefore,

S^2={205.2}/{5-1}

Also we have,

sample standard deviation,

s=

sqrt({sum (x i-barx)^2}/{n-1}

sqrt({205.2}/{4}

 ∴  **sample standard deviation s =7.16**

 ∴  **sample variance s2 =51.30 &**

**sample standard deviation s =7.16**