$$MSE = E[(X - c)^2]$$ variable

$$E[(x-c)(x-c)] = E[x^2 - cx - cx + c^2]$$

$$= E[x^2] - 2cE[x] + c^2$$

$$-E[x]^2 + E[x]^2$$

$$= E[x^2] - E[x]^2 + E[x]^2 - 2cE[x] + c^2$$

$$MSE = V[x] + (E[x] - c)^2$$