

Question #238

Key: B

$$\begin{aligned}MSE &= E[(X^2 - \theta^2)^2] = E(X^4 - 2X^2\theta^2 + \theta^4) \\ &= 24\theta^4 - 2(2\theta^2)\theta^2 + \theta^4 = 21\theta^4\end{aligned}$$