∇f ( )

$\frac{\partial f}{\partial x_i} f(s) = \frac{\partial}{\partial}$

$\mathbb{E}[$

$\nabla^3 f(t)(s-t), s-t)$

$\mathbb{E}[\nabla^T f(t) \nabla f(s)]$

$\nabla f(s) = \nabla f(t) + \nabla^2 f(t)(s-t) + \frac{1}{2}\nabla^3 f(t)(s-t)$

$= I$

$= \mathbb{E}[\nabla^T f(t) \nabla f(t)] + (s-t)^T \mathbb{E}[\nabla f(t) \nabla^2 f(t)](s-t)$

$+ \mathbb{E}[\nabla^T f(t) \nabla^3 f(t)(s-t, s-t)] + \cdots$

so $\det(AD - BC)$

$= I - (I + (s$

$\mathbb{E}\left[\frac{\partial f}{\partial x_i}(t) \frac{\partial^2}{\partial x_i}\right.$

$\mathbb{E}\left[\frac{\partial}{\partial x_i} \frac{\partial^3}{}\right.$