Similarly, one may derive

$$\sin(x + \dot{x}\mathbf{d}) = \sin(x) + \cos(x)\,\dot{x}\mathbf{d}$$

$$\cos(x + \dot{x}\mathbf{d}) = \cos(x) - \sin(x)\,\dot{x}\mathbf{d}$$

$$e^{(x+\dot{x}\mathbf{d})} = e^{x} + e^{x}\dot{x}\mathbf{d}$$

$$\log(x + \dot{x}\mathbf{d}) = \log(x) + \frac{\dot{x}}{x}\mathbf{d} \quad x \neq 0$$

$$\sqrt{x + \dot{x}\mathbf{d}} = \sqrt{x} + \frac{\dot{x}}{2\sqrt{x}}\mathbf{d} \quad x \neq 0$$