

$$\begin{aligned}(1) \quad & \left(\sqrt{x + \sqrt{x}} \right)' = (\sqrt{t})'(x + \sqrt{x})' \\ & = (\sqrt{t})'(x + \sqrt{x})' = \frac{1 + 1/2\sqrt{x}}{2\sqrt{t}} \\ & = \frac{2\sqrt{x} + 1}{4\sqrt{x}\sqrt{x + \sqrt{x}}}\end{aligned}$$