

$$\begin{aligned}2x\sqrt{x} + x^2\frac{1}{2\sqrt{x}} &= 2x^{3/2} + \frac{1}{2}x^{2-1/2} \\ &= 2x^{3/2} + \frac{1}{2}x^{3/2} \\ 2x\sqrt{x} + x^2\frac{1}{2\sqrt{x}} &= \frac{5}{2}x^{3/2}\end{aligned}$$