

**Answer on Question #46127 – Math - Integral Calculus**

Integrate with respect to x :

$$\int_1^4 \left(x + \frac{1}{x\sqrt{x}}\right) dx$$

**Solution.**

$$\int_1^4 \left(x + \frac{1}{x\sqrt{x}}\right) dx = \int_1^4 (x + x^{-\frac{3}{2}}) dx =$$

$$= \left\{ \frac{x^2}{2} + x^{-\frac{1}{2}}(-2) \right\} \Big|_1^4 = \left\{ 8 - \frac{1}{2} - \frac{2}{2} + \frac{2}{1} \right\} = \left\{ 8 - \frac{1}{2} - 1 + 2 \right\} = 9 - \frac{1}{2} = \frac{18 - 1}{2} = \frac{17}{2}$$

**Answer:**  $\frac{17}{2}$