

$$\int \frac{\sqrt{5x} + \sqrt{3x^3}}{x} dx =$$

$$\int \frac{\sqrt{5x}}{x} dx + \int \frac{\sqrt{3x^3}}{x} dx =$$

$$\sqrt{5} \int \frac{x^{\frac{1}{2}}}{x} dx + \sqrt{3} \int \frac{x^{\frac{3}{2}}}{x} dx =$$

$$\sqrt{5} \int x^{-\frac{1}{2}} dx + \sqrt{3} \int x^{\frac{1}{2}} dx =$$

$$\sqrt{5} \cdot \frac{x^{\frac{1}{2}}}{\frac{1}{2}} + \sqrt{3} \cdot \frac{x^{\frac{3}{2}}}{\frac{3}{2}} + C =$$

$$2\sqrt{5}\sqrt{x} + \frac{2\sqrt{3}\sqrt{x^3}}{3} + C =$$

$$2\sqrt{5x} + \frac{2\sqrt{3x^3}}{3} + C =$$

$$\boxed{2\sqrt{5x} + \frac{2x\sqrt{3x}}{3} + C}$$