

$$\begin{aligned}
 10) \int \frac{3}{t} dt &= \int 3t^{-5} dx \\
 &= 3 \left(t^{-5+1} \right) + C \\
 &= 3 \left(\frac{t^{-4}}{-4} \right) + C \\
 &= -\frac{3t^{-4}}{4} + C \\
 &= -\frac{3}{4t^4} + C
 \end{aligned}$$

$$\begin{aligned}
 \bullet f(x) &= -\frac{3}{4t^4} + C \\
 &= -\frac{3t^{-4}}{4} + C \\
 &= \frac{d}{dx} -\frac{3t^{-4}}{4} + \frac{d}{dx} C \\
 &= \frac{3t^{-5}}{4} + 0 \\
 &= 3t^{-5} = \frac{3}{t^5} //
 \end{aligned}$$

$$\begin{aligned}
 11) \int 5u^{3/2} du &= 5 \int u^{3/2} du \\
 &= 5 \left(\frac{u^{3/2+1}}{3/2+1} \right) + C \\
 &= 5 \left(\frac{u^{5/2}}{5/2} \right) + C \\
 &= \frac{5u^{5/2}}{\frac{5}{2}} + C \\
 &= \frac{2}{10} u^{5/2} + C \\
 &= 2u^{5/2} + C \\
 &= 2\sqrt{u^5} + C //
 \end{aligned}$$

$$\begin{aligned}
 \bullet f(x) &= 2\sqrt{u^5} + C \\
 &= 2u^{5/2} + C \\
 &= \frac{d}{dx} 2u^{5/2} + \frac{d}{dx} C \\
 &= \frac{10}{2} u^{3/2} + 0 \\
 &= 5u^{3/2} //
 \end{aligned}$$

$$\begin{aligned}
 12) \int 10\sqrt[3]{x^2} dx &= 10 \int x^{2/3} dx \\
 &= 10 \left(\frac{x^{2/3+1}}{2/3+1} \right) + C \\
 &= 10 \left(\frac{x^{5/3}}{5/3} \right) + C \\
 &= \frac{10x^{5/3}}{\frac{5}{3}} + C \\
 &= \frac{30x^{5/3}}{5} + C \\
 &= 6x^{5/3} + C
 \end{aligned}$$

$$\begin{aligned}
 \bullet f(x) &= 6x^{5/3} + C \\
 &= \frac{d}{dx} 6x^{5/3} + \frac{d}{dx} C \\
 &= \frac{30}{2} x^{2/3} + 0 \\
 &= 10x^{2/3} \\
 &= 10\sqrt[3]{x^2} //
 \end{aligned}$$