

$$1/ \int 5\pi dx = \underline{5\pi x + C}$$

$$2/ \int (x+7) dx = \underline{\frac{1}{2}x^2 + 7x + C}$$

$$3/ \int (13 - x) dx = \underline{13x - \frac{1}{2}x^2 + C}$$

$$4/ \int (2x - 3x^2) dx = \underline{x^2 - x^3 + C}$$

$$5/ \int (8x^3 - 9x^2 + 4) dx = \underline{2x^4 - 3x^3 + 4x + C}$$

$$6/ \int (x^5 - 4) dx = \underline{\frac{1}{6}x^6 - 4x + C}$$

$$7/ \int (6x^{3/2} - 7x + 2) dx = \underline{\frac{12}{5}x^{5/2} - \frac{7}{2}x^2 + 2x + C}$$

$$\begin{aligned} 8/ \int \left(\sqrt{x} + \frac{1}{2\sqrt{x}}\right) dx &= \int \left(x^{1/2} + \frac{1}{2}x^{-1/2}\right) dx \\ &= \frac{2}{3}x^{3/2} + x^{1/2} + C \\ &= \underline{\frac{2}{3}x\sqrt{x} + \sqrt{x} + C} \end{aligned}$$

$$\begin{aligned} 9/ \int \sqrt[3]{x^2} dx &= \int x^{2/3} dx \\ &= \underline{\frac{3}{5}x^{5/3} + C} \end{aligned}$$

$$\begin{aligned} 10/ \int (4\sqrt[4]{x^3} - 9x^3) dx &= \int (4x^{3/4} - 9x^3) dx \\ &= \underline{\frac{16}{7}x^{7/4} - \frac{9}{4}x^4 + C} \end{aligned}$$

$$\begin{aligned} 11/ \int \frac{x+6}{\sqrt{x}} dx &= \int \left(\frac{x}{\sqrt{x}} + \frac{6}{\sqrt{x}} \right) dx \\ &= \int (x^{-1/2} + 6x^{1/2}) dx \\ &= \underline{2\sqrt{x} + 4x^{3/2} + C} \end{aligned}$$

$$\begin{aligned} 12/ \int \frac{x^2+2x-3}{x^3} dx &= \int \left(\frac{1}{x} + \frac{2}{x^2} - 3x^{-3} \right) dx \\ &= \underline{\ln|x| - \frac{2}{x} + \frac{3}{2x^2} + C} \end{aligned}$$

$$13/ \int \frac{1}{2} \frac{dx}{x} = \underline{\frac{1}{2} \ln|x| + C}$$

$$\begin{aligned} 14/ \int (2x^2-1)^2 dx &= \int (4x^4 - 4x^2 + 1) dx \\ &= \underline{\frac{4}{5}x^5 - \frac{4}{3}x^3 + x + C} \end{aligned}$$

$$\begin{aligned} 15/ \int (1+3t)t^2 dt &= \int (t^2 + 3t^3) dt \\ &= \underline{\frac{1}{3}t^3 + \frac{3}{4}t^4 + C} \end{aligned}$$

$$\begin{aligned} 16/ \int t^2 \sqrt{t} dt &= \int t^{5/2} dt \\ &= \underline{\frac{2}{7}t^{7/2} + C} \end{aligned}$$

$$17/ \int (5\cos x + 4\sin x) dx = \underline{5\sin x - 4\cos x + C}$$

$$18/ \int (x^2 - \cos x) dx = \underline{\frac{1}{3}x^3 - \sin x + C}$$

$$19/ \int (1 - \csc x \cot x) dx = \underline{x + \csc x + C}$$

$$20/ \int (\theta^2 + \sec^2 \theta) d\theta = \underline{\frac{1}{3} \theta^3 + \tan \theta + C}$$

$$21/ \int (\sec^2 \theta - \sin \theta) d\theta = \underline{\tan \theta + \cos \theta + C}$$

$$22/ \int \sec \theta (\tan \theta - \sec \theta) d\theta = \int (\sec \theta \tan \theta - \sec^2 \theta) d\theta \\ = \underline{\sec \theta - \tan \theta + C}$$

$$23/ \int \frac{\cos x}{1 - \cos^2 x} dx = \int \frac{\cos x}{\sin^2 x} dx \\ = \int \frac{\cos x}{\sin x} \frac{1}{\sin x} dx \\ = \int \cot x \csc x dx \\ = \underline{-\csc x + C}$$

$$24/ \int 5e^{5x} dx = \underline{e^{5x} + C}$$

$$25/ \int e^{-2x} dx = \underline{-\frac{1}{2} e^{-2x} + C}$$