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BHASKAR CLASSES PVT LTD

Integration

1. Find the following integrals
   a. $\int \frac{x^3-1}{x^2} dx$
   b. $\int \left(x^{\frac{3}{2}} + \right) dx$
2. $\int \frac{1-\sin x}{cos^2 x} dx$
3. $\int \sec x \ (\sec x + \tan x)\, dx$
4. $\int \frac{2-3sinx}{cos^2 x} dx$
5. If $\frac{d}{dx} f(x) = 4x^3 - \frac{3}{x^4}$ such that $f(2) = 0$. Then $f(x)$ is
6. $\int \left(\sqrt{x} - \frac{1}{\sqrt{x}}\right)^2 dx$
7. Find the following integrals:
   a. $\int sin^3 x \ cos^2 x \, dx$
   b. $\int \frac{\sin x}{\sin (x+a)} dx$
8. Integrate the function:
   a. $\frac{1}{x+x\, logx}$
   b. $\sin(ax + b) \cos(ax + b)$
   c. $\frac{1}{x(\log x)^m}, x > 0, m \neq 1$
   d. $\frac{e^{2x}-e^{-2x}}{e^{2x}+e^{-2x}}$
   e. $\frac{2cosx-3sinx}{6cosx+4sinx}$
   f. $\frac{(x+1)(x+logx)^2}{x}$