Evaluate the Integral

1) $\int \sin^3 x \cos^2 x \, dx$ $\quad \boxed{\dfrac{1}{5}\cos^5 x - \dfrac{1}{3}\cos^3 x + C}$

2) $\int \sin^6 x \cos^3 x \, dx$ $\quad \boxed{\dfrac{1}{7}\sin^7 x - \dfrac{1}{9}\sin^9 x + C}$

3) $\int_0^{\pi/2} \cos^5 x \, dx$ $\quad \boxed{\dfrac{8}{15}}$

4) $\int \sin^3(mx) \, dx$ $\quad \boxed{\dfrac{1}{3m}\cos^3(mx) - \dfrac{1}{m}\cos(mx) + C}$

5) $\displaystyle\int_0^{\pi/2}\cos^2\theta\,d\theta$ $\boxed{\dfrac{\pi}{4}}$

6) $\displaystyle\int_0^{\pi}\sin^4(3t)\,dt$ $\boxed{\dfrac{3\pi}{8}}$

7) $\displaystyle\int(1+\cos\theta)^2\,d\theta$ $\boxed{\dfrac{3}{2}\theta+2\sin\theta+\dfrac{1}{4}\sin 2\theta+C}$

8) $\displaystyle\int x\cos^2 x\,dx$ $\boxed{\dfrac{1}{4}x^2+\dfrac{1}{4}x\sin 2x+\dfrac{1}{8}\cos 2x+C}$

9) $\displaystyle\int_0^{\pi/2} \sin^2 x \cos^2 x \, dx$ $\boxed{\dfrac{\pi}{16}}$

10) $\displaystyle\int \sin^3 x \sqrt{\cos x} \, dx$ $\boxed{\dfrac{2}{7}(\cos x)^{7/2} - \dfrac{2}{3}(\cos x)^{3/2} + C}$

11) $\displaystyle\int \cos\theta \cos^5(\sin\theta) \, d\theta$ $\boxed{\sin(\sin\theta) - \dfrac{2}{3}\sin^3(\sin\theta) + \dfrac{1}{5}\sin^5(\sin\theta) + C}$

12) $\displaystyle\int \cos^2 x \tan^3 x \, dx$ $\boxed{\dfrac{1}{2}\cos^2 x - \ln|\cos x| + C}$

13) $\displaystyle\int \frac{1-\sin x}{\cos x}\,dx$ $\boxed{\ln(1+\sin x)+C}$

14) $\displaystyle\int \sec^2 x \tan x\,dx$ $\boxed{\dfrac{1}{2}\tan^2 x+C}$

15) $\displaystyle\int \sec^6 t\,dt$ $\boxed{\dfrac{1}{5}\tan^5 t+\dfrac{2}{3}\tan^3 t+\tan t+C}$

16) $\displaystyle\int \tan^3(2x)\sec^5(2x)\,dx$ $\boxed{\dfrac{1}{14}\sec^7(2x)-\dfrac{1}{10}\sec^5(2x)+C}$

17) $\int \dfrac{\tan^3 \theta}{\cos^4 \theta} d\theta$ | $\boxed{\dfrac{1}{6}\tan^6 \theta + \dfrac{1}{4}\tan^4 \theta + C}$

18) $\int_{\pi/6}^{\pi/2} \cot^2 x\, dx$ | $\boxed{\dfrac{\pi}{3}}$

19) $\int \csc^4 x \cot^6 x\, dx$ | $\boxed{-\dfrac{1}{9}\cot^9 x - \dfrac{1}{7}\cot^7 x + C}$

20) $\int \csc x\, dx$ | $\boxed{\ln\left|\csc x - \cot x\right| + C}$

21) $\int \sin(5x)\sin(2x)\,dx$ $\boxed{\dfrac{1}{6}\sin 3x - \dfrac{1}{14}\sin 7x + C}$

22) $\int \sin(3x)\cos x\,dx$ $\boxed{-\dfrac{1}{8}\cos 4x - \dfrac{1}{4}\cos 2x + C}$

23) $\int \dfrac{dx}{\cos x - 1}$ $\boxed{\csc x + \cot x + C}$