Answers

(1) $\int 4x(2x-1)^4\,dx = \frac{1}{6}(2x-1)^6 + \frac{1}{5}(2x-1)^5 + C$

(2) $\int x(3x-1)^4\,dx = \frac{1}{54}(3x-1)^6 + \frac{1}{45}(3x-1)^5 + C$

(3) $\int \frac{4x^2}{2x-1}\,dx = \frac{1}{4}(2x-1)^2 + (2x-1) + \frac{1}{2}\ln|2x-1| + C$

(4) $\int \frac{6x^2}{2x+3}\,dx = \frac{3}{8}(2x+3)^2 - \frac{9}{2}(2x+3) + \frac{27}{4}\ln|2x+3| + C$

(5) $\int x(x^2-1)^{\frac{5}{2}}\,dx = \frac{1}{7}(x^2-1)^{\frac{7}{2}} + C$

(6) $\int x\sqrt{1-x}\,dx = \frac{2}{5}(1-x)^{\frac{5}{2}} - \frac{2}{3}(1-x)^{\frac{3}{2}} + C$

(7) $\int \frac{6x}{\sqrt{2x+1}}\,dx = (2x+1)^{\frac{3}{2}} - 3(2x+1)^{\frac{1}{2}} + C$

(8) $\int \cos^3 x\,dx = \sin x - \frac{1}{3}\sin^3 x + C$

(9) $\int \sec^4 x\,dx = \tan x + \frac{1}{3}\tan^3 x + C$