.

1.

(1) x^3 (2) $x^{0.5}$ (3) x^π (4) $\dfrac{1}{x}$

(5) $\dfrac{1}{x^3}$ (6) $\sqrt{3x-1}$ (7) $\sqrt[3]{2x+1}$ (8) $\dfrac{1}{\sqrt[5]{x^2+3}}$

(9) $\dfrac{2}{x^5}$ (10) $x^{\frac{2}{3}}$ (11) $x^{-\frac{3}{5}} + x^{-2}$ (12) $x^8 + x^9 - x^{-7}$

2.

(1) $\sin(2x+1)$ (2) $\sin(x^2+1)$ (3) $\cos(-x^3+2x)$

(4) $\tan(3x-1)$ (5) $\cos e^x$ (6) $\cos\left(\dfrac{1}{x^2}\right)$

(7) $\tan(4x^2-3)$ (8) $\mathrm{Sin}^{-1}(2x+1)$ (9) $\mathrm{Cos}^{-1}(x^2-5x)$

(10) $\mathrm{Tan}^{-1}(2x^5+x)$ (11) $\mathrm{Cos}^{-1}(e^{3x}-e^{-3x})$ (12) $\mathrm{Tan}^{-1}(x^3-4x)$

(13) $\mathrm{Sin}^{-1}\dfrac{x}{2}$ (14) $\mathrm{Tan}^{-1}\dfrac{x}{3}$ (15) $\mathrm{Sin}^{-1}x + \mathrm{Cos}^{-1}x$

(16) $\mathrm{Sin}^{-1}\sqrt{x}$

3.

(1) e^x (2) e^{3x+1} (3) e^{x^2-7} (4) $e^{\frac{1}{x}}$

(5) 3^x (6) 3^{2x^2} (7) 5^{x^3-x} (8) $3^{\sin x}$

(9) $\log x$ (10) $\log(2x-3)$ (11) $\log(x^5-x^2)$ (12) $\log(\sin x)$