

1 Differentiation

$$\frac{1}{\ln(\sin(x)) \tan(x)} \quad (1)$$

$$\frac{5 \left(\tan^2 \left(\csc \left(\frac{1}{x^5} \right) \right) + 1 \right) \cot \left(\frac{1}{x^5} \right) \csc \left(\frac{1}{x^5} \right)}{x^6} \quad (2)$$

$$3x^2 \tan(x^3) \sec(x^3) \quad (3)$$

$$-e^{e^{\cos(x)} + \cos(x)} \ln(e)^2 \sin(x) \quad (4)$$

$$\frac{1}{x \tan(\ln(x))} \quad (5)$$

$$-\frac{3 \ln(x)^2 \cot(\ln(x)^3) \csc(\ln(x)^3)}{x} \quad (6)$$

$$-\frac{25x^4}{\sin^2(x^5)} \quad (7)$$

$$\frac{\cos(\ln(\ln(x)))}{x \ln(x)} \quad (8)$$

$$-e^{\sin(x)} \ln(e) \sin(e^{\sin(x)}) \cos(x) \quad (9)$$

$$\sin(x) \sin(\sin(\cos(x))) \cos(\cos(x)) \quad (10)$$

$$-\frac{\cos\left(\frac{1}{x}\right)}{x^2} \quad (11)$$

$$\frac{5 \tan^4(\ln(x))}{x \cos^2(\ln(x))} \quad (12)$$

$$-\frac{3 \cos(x)}{2(3 \sin(x) - 4)^3} \quad (13)$$

$$-\frac{10e^{\frac{1}{x^{10}}} \ln(e)}{x^{11} \cos^2\left(e^{\frac{1}{x^{10}}}\right)} \quad (14)$$

$$72 \sin^{71}(x) \cos(x) \quad (15)$$

$$-\frac{75}{(5x+3)^{16}} \quad (16)$$

$$\sin(\sin(x)) \sin(\cos(\sin(x))) \cos(x) \quad (17)$$

$$\frac{3 \cos(3 \cot(x) + 5)}{\sin^2(x)} \quad (18)$$

$$\frac{1}{\sin(\tan(x)) \cos^2(x) \cos(\tan(x))} \quad (19)$$

$$-\frac{2e^{\cot(x^2)} x \ln(e)}{\sin^2(x^2)} \quad (20)$$

2 Matrices

$$\begin{bmatrix} \frac{22}{17} & -\frac{21}{17} & 1 \\ -\frac{27}{17} & \frac{25}{17} & -1 \\ \frac{30}{17} & -\frac{24}{17} & 1 \end{bmatrix} \quad (21)$$

$$\begin{bmatrix} -\frac{2}{147} & \frac{5}{49} & \frac{1}{7} \\ \frac{1}{21} & \frac{1}{7} & 0 \\ \frac{11}{49} & -\frac{9}{49} & \frac{1}{7} \end{bmatrix} \quad (22)$$

$$\begin{bmatrix} \frac{30}{13} & \frac{31}{26} & \frac{67}{26} \\ \frac{3}{2} & \frac{3}{2} & \frac{7}{2} \\ \frac{5}{13} & \frac{3}{26} & \frac{9}{26} \end{bmatrix} \quad (23)$$

$$\begin{bmatrix} \frac{7}{13} & -\frac{1}{13} & \frac{15}{104} \\ \frac{1}{26} & -\frac{1}{13} & -\frac{9}{208} \\ \frac{1}{2} & 0 & \frac{1}{16} \end{bmatrix} \quad (24)$$

$$\begin{bmatrix} \frac{2}{5} & 0 & \frac{3}{5} \\ -\frac{4}{25} & -\frac{1}{10} & -\frac{7}{50} \\ -\frac{19}{25} & -\frac{1}{10} & -\frac{77}{50} \end{bmatrix} \quad (25)$$

$$\begin{bmatrix} \frac{5}{54} & \frac{1}{30} & -\frac{4}{135} \\ \frac{1}{9} & -\frac{1}{10} & \frac{13}{90} \\ \frac{1}{18} & \frac{1}{10} & \frac{1}{45} \end{bmatrix} \quad (26)$$

$$\begin{bmatrix} -\frac{2}{9} & -\frac{17}{27} & \frac{8}{27} \\ \frac{1}{9} & \frac{4}{27} & \frac{1}{54} \\ \frac{4}{27} & \frac{52}{81} & -\frac{41}{162} \end{bmatrix} \quad (27)$$

$$\begin{bmatrix} \frac{9}{41} & -\frac{1}{41} & \frac{35}{41} \\ -\frac{4}{41} & \frac{5}{41} & -\frac{11}{41} \\ -\frac{13}{41} & \frac{6}{41} & -\frac{87}{41} \end{bmatrix} \quad (28)$$

$$\begin{bmatrix} \frac{21}{416} & \frac{1}{32} & \frac{53}{416} \\ \frac{11}{104} & -\frac{32}{1} & \frac{416}{3} \\ \frac{11}{104} & -\frac{8}{1} & \frac{416}{104} \end{bmatrix} \quad (29)$$

$$\begin{bmatrix} \frac{19}{246} & -\frac{25}{246} & -\frac{2}{123} \\ -\frac{1}{123} & -\frac{41}{82} & \frac{11}{123} \\ \frac{3}{82} & \frac{9}{82} & \frac{4}{41} \end{bmatrix} \quad (30)$$