1 Differenciation

$$\frac{\cos\left(\frac{1}{x}\right)}{x^2\sin^2\left(\frac{1}{x}\right)} \tag{1}$$

$$-\frac{e^x\ln\left(e\right)\tan\left(\cot\left(e^x\right)\right)\sec\left(\cot\left(e^x\right)\right)}{\sin^2\left(e^x\right)} \tag{2}$$

$$-e^{\cos\left(\sin\left(x\right)\right)}\ln\left(e\right)\sin\left(\sin\left(x\right)\right)\cos\left(x\right) \tag{3}$$

$$-\frac{\sin\left(\tan\left(x\right)\right)}{\cos^2\left(x\right)} \tag{4}$$

$$-36x^8\cos\left(x^9\right) \tag{5}$$

$$\frac{\sin\left(x\right)\sin\left(\cos\left(x\right)\right)}{\cos^2\left(\cos\left(\cos\left(x\right)\right)\right)} \tag{6}$$

$$7x^6\cos\left(x^7\right)\tan\left(\sin\left(x^7\right)\right)\sec\left(\sin\left(x^7\right)\right) \tag{7}$$

$$\frac{18\tan^{17}\left(x\right)}{\cos^2\left(x\right)} \tag{8}$$

$$-e^{\csc\left(x\right)}\ln\left(e\right)\tan\left(e^{\csc\left(x\right)}\right)\cot\left(x\right)\csc\left(x\right)\sec\left(e^{\csc\left(x\right)}\right) \tag{9}$$

$$-\frac{20}{x\ln\left(x\right)^{21}} \tag{10}$$

$$-\frac{2e^x\ln\left(e\right)}{3\left(2e^x-3\right)^2} \tag{11}$$

$$-\frac{\ln\left(e\right)}{\ln\left(e^x\right)^2} \tag{12}$$

$$\frac{7e^{\tan\left(x^7\right)}x^6\ln\left(e\right)}{\cos^2\left(x^7\right)} \tag{13}$$

$$5\left(\tan^2\left(5x+6\right)+1\right)\tan\left(\tan\left(5x+6\right)\right)\sec\left(\tan\left(5x+6\right)\right) \tag{14}$$

$$\left(\tan^2\left(\ln\left(\sec\left(x\right)\right)\right)+1\right)\tan\left(x\right) \tag{15}$$

$$\frac{4\cot\left(\cot\left(x\right)\right)\csc^4\left(\cot\left(x\right)\right)}{\sin^2\left(x\right)} \tag{16}$$

$$-6\cos\left(x\right)\tan\left(\sin\left(x\right)\right)\sec\left(\sin\left(x\right)\right) \tag{17}$$

$$\frac{\cos\left(\ln\left(x\right)\right)}{x\cos^2\left(\sin\left(\ln\left(x\right)\right)\right)} \tag{18}$$

$$\frac{1}{\cos^2\left(x\right)} \tag{19}$$

$$-\frac{5\cot\left(\frac{1}{x}\right)\csc\left(\frac{1}{x}\right)}{x^2} \tag{20}$$

2 Matrices

$$\begin{bmatrix} -\frac{1}{42} & \frac{1}{28} & \frac{25}{336} \\ -\frac{13}{84} & -\frac{1}{56} & -\frac{53}{672} \\ -\frac{1}{21} & \frac{1}{14} & -\frac{17}{168} \end{bmatrix} \tag{21}$$

$$\begin{bmatrix} -\frac{7}{53} & -\frac{22}{477} & -\frac{4}{53} \\ -\frac{4}{53} & \frac{43}{954} & \frac{3}{106} \\ -\frac{4}{53} & -\frac{7}{106} & \frac{3}{106} \end{bmatrix} \tag{22}$$

$$\begin{bmatrix} \frac{17}{355} & -\frac{11}{71} & -\frac{39}{355} \\ -\frac{38}{355} & -\frac{13}{71} & -\frac{59}{355} \\ \frac{23}{355} & \frac{6}{71} & -\frac{11}{355} \end{bmatrix} \tag{23}$$

$$\begin{bmatrix} \frac{15}{71} & -\frac{8}{71} & \frac{11}{426} \\ -\frac{8}{71} & \frac{9}{71} & \frac{16}{213} \\ \frac{7}{71} & \frac{1}{71} & -\frac{14}{213} \end{bmatrix} \tag{24}$$

$$\begin{bmatrix} -\frac{2}{9} & \frac{5}{27} & -\frac{1}{27} \\ \frac{1}{3} & -\frac{32}{99} & -\frac{8}{99} \\ -\frac{1}{9} & \frac{5}{297} & \frac{26}{297} \end{bmatrix} \tag{25}$$

$$\begin{bmatrix} -\frac{17}{96} & -\frac{47}{192} & \frac{91}{192} \\ \frac{5}{48} & \frac{11}{96} & -\frac{7}{96} \\ -\frac{13}{48} & -\frac{19}{96} & \frac{47}{96} \end{bmatrix} \tag{26}$$

$$\begin{bmatrix} -\frac{2}{31} & -\frac{19}{527} & \frac{105}{527} \\ \frac{3}{31} & \frac{44}{527} & -\frac{49}{527} \\ -\frac{2}{31} & \frac{43}{527} & \frac{12}{527} \end{bmatrix} \tag{27}$$

$$\begin{bmatrix} -\frac{3}{121} & \frac{34}{121} & -\frac{2}{121} \\ -\frac{12}{121} & \frac{15}{121} & -\frac{8}{121} \\ -\frac{14}{363} & -\frac{43}{363} & \frac{31}{363} \end{bmatrix} \tag{28}$$

$$\begin{bmatrix} -\frac{41}{132} & \frac{13}{33} & -\frac{53}{132} \\ \frac{1}{6} & -\frac{1}{3} & \frac{1}{6} \\ -\frac{9}{44} & \frac{5}{11} & -\frac{17}{44} \end{bmatrix} \tag{29}$$

$$\begin{bmatrix} \frac{10}{43} & \frac{11}{172} & \frac{1}{43} \\ -\frac{27}{86} & \frac{9}{344} & -\frac{7}{86} \\ \frac{7}{43} & \frac{3}{43} & \frac{5}{43} \end{bmatrix} \tag{30}$$