1 Calculus

$$-3\tan^2(x+1)-3 \tag{1}$$

$$-\frac{\cos(x)\cos(\sin(x))}{\sin^2(\sin(x))} \tag{2}$$

$$\frac{2}{\sin(2x)} \tag{3}$$

$$\frac{1}{x^2\sin^2\left(\tan\left(\frac{1}{x}\right)\right)\cos^2\left(\frac{1}{x}\right)} \tag{4}$$

$$-\frac{\sin(\ln(x))}{x\cos^2(\cos(\ln(x)))} \tag{5}$$

$$-\frac{\sin(x)}{\sin^2\left(\frac{1}{\cos(x)}\right)\cos^2(x)} \tag{6}$$

$$-\frac{1}{x\ln(x)\ln(\ln(x))^2} \tag{7}$$

$$\frac{2}{x\sin(2\ln(x))} \tag{8}$$

$$e^{\cos(\sec(x))-1}\cos(\sec(x)) \tag{9}$$

$$\frac{\tan(x)}{\sin^2(\ln(\cos(x)))} \tag{10}$$

$$\cos(x) \tag{11}$$

$$\frac{56\cos\left(\frac{1}{(8x+3)^7}\right)}{(8x+3)^8} \tag{12}$$

$$-10e^{x-1}x \tag{13}$$

$$\frac{6\cos\left(\frac{1}{x}\right)}{x^2\sin^7\left(\frac{1}{x}\right)} \tag{14}$$

$$-\frac{6x^5}{\sin^2(x^6)} \tag{15}$$

$$-\frac{2e^{x-1}x}{\sin(2e^x)} \tag{16}$$

$$4x^3\cos\left(x^4\right)\cos\left(\sin\left(x^4\right)\right) \tag{17}$$

$$\sin(x)\sin(\sin(\cos(x)))\cos(\cos(x)) \tag{18}$$

$$e^{6-5\csc(x)}(7-5\csc(x)) \tag{19}$$

$$-\frac{3x^2}{\sin^2(x^3)} \tag{20}$$

2 Matrices

$$\begin{bmatrix} \frac{1}{48} & -\frac{11}{48} & \frac{1}{6} \\ -\frac{5}{144} & \frac{7}{144} & -\frac{5}{18} \\ -\frac{5}{48} & \frac{7}{48} & \frac{1}{6} \end{bmatrix} \tag{21}$$

$$\begin{bmatrix} \frac{60}{91} & -\frac{7}{13} & \frac{4}{13} \\ \frac{19}{91} & -\frac{2}{13} & \frac{3}{13} \\ \frac{4}{13} & -\frac{5}{13} & \frac{1}{13} \end{bmatrix} \tag{22}$$

$$\begin{bmatrix} 0 & -\frac{3}{8} & -\frac{1}{8} \\ -\frac{1}{11} & \frac{6}{11} & \frac{4}{11} \\ -\frac{3}{11} & \frac{67}{88} & \frac{41}{88} \end{bmatrix} \tag{23}$$

$$\begin{bmatrix} -\frac{1}{14} & -\frac{1}{10} & \frac{3}{35} \\ \frac{9}{28} & -\frac{7}{20} & \frac{18}{35} \\ \frac{3}{28} & -\frac{1}{20} & -\frac{1}{35} \end{bmatrix} \tag{24}$$

$$\begin{bmatrix} -\frac{45}{674} & \frac{21}{674} & \frac{61}{674} \\ -\frac{18}{337} & -\frac{59}{337} & -\frac{43}{337} \\ -\frac{14}{337} & \frac{29}{337} & \frac{4}{337} \end{bmatrix} \tag{25}$$

$$\begin{bmatrix} -\frac{15}{53} & -\frac{6}{53} & -\frac{40}{53} \\ \frac{19}{53} & -\frac{3}{53} & \frac{33}{53} \\ \frac{10}{53} & \frac{4}{53} & \frac{9}{53} \end{bmatrix} \tag{26}$$

$$\begin{bmatrix} -\frac{4}{17} & -\frac{9}{119} & \frac{20}{119} \\ 1 & 0 & -1 \\ -\frac{12}{17} & \frac{1}{17} & \frac{11}{17} \end{bmatrix} \tag{27}$$

$$\begin{bmatrix} -\frac{1}{4} & -\frac{1}{4} & \frac{1}{4} \\ \frac{15}{124} & \frac{35}{124} & -\frac{43}{124} \\ -\frac{11}{62} & -\frac{5}{62} & \frac{15}{62} \end{bmatrix} \tag{28}$$

$$\begin{bmatrix} \frac{11}{58} & -\frac{1}{58} & \frac{1}{58} \\ \frac{4}{29} & -\frac{3}{29} & \frac{3}{29} \\ \frac{7}{58} & \frac{1}{29} & \frac{23}{174} \end{bmatrix} \tag{29}$$

$$\begin{bmatrix} \frac{1}{35} & -\frac{16}{175} & -\frac{18}{175} \\ \frac{4}{35} & \frac{6}{175} & -\frac{37}{175} \\ -\frac{12}{35} & \frac{17}{175} & \frac{41}{175} \end{bmatrix} \tag{30}$$

3 Algebra

$$x^3 - 7x^2 - 36x + 252 \tag{31}$$

$$x^3 + 8x^2 - 16x - 128 \tag{32}$$

$$x^3 - 43x + 42 \tag{33}$$

$$x^3 + 3x^2 - 16x + 12 \tag{34}$$

$$x^3 - 8x^2 - 39x + 270 \tag{35}$$

$$x^3 - 5x^2 - 26x + 120 \tag{36}$$

$$x^3 - 9x^2 - 49x + 441 \tag{37}$$

$$x^3 - 10x^2 + x + 120 \tag{38}$$

$$x^3 - x^2 - 40x + 112 \tag{39}$$

$$x^3 + 14x^2 + 56x + 64 \tag{40}$$