

1 Calculus

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

$$-\frac{9}{\tan(x)} \quad (2)$$

$$-\frac{56 \cos\left(\frac{1}{x^7}\right)}{x^8} \quad (3)$$

$$-\frac{1}{x+1} \quad (4)$$

$$-\frac{10 \cos(\sec(x)) \tan(x) \sec(x)}{\sin^{11}(\sec(x))} \quad (5)$$

$$-(\tan^2(\sec(x)-3)+1) \tan(x) \sec(x) \quad (6)$$

$$-\frac{\cos\left(\tan\left(\frac{1}{x}\right)\right)}{x^2 \cos^2\left(\frac{1}{x}\right)} \quad (7)$$

$$\frac{6 \tan\left(\frac{1}{x^6}\right)}{x^7} \quad (8)$$

$$-2e^{\cos(2x-7)} \ln(e) \sin(2x-7) \quad (9)$$

$$64 \cos(x) \quad (10)$$

$$\frac{\cos(\sin(\tan(x))) \cos(\tan(x))}{\cos^2(x)} \quad (11)$$

$$-\frac{10}{(5 \tan(x)+6)^3 \cos^2(x)} \quad (12)$$

$$-\frac{\sin(\ln(x))}{x} \quad (13)$$

$$9e^{9x} \ln(e) \quad (14)$$

$$\frac{3 \cos^2(x)}{\sin^4(x)} \quad (15)$$

$$5e^x (\tan^2(5e^x+1)+1) \ln(e) \quad (16)$$

$$\frac{1}{18(2x-1)^2} \quad (17)$$

$$\frac{1}{x \cos^2(\ln(x)) \cos^2(\tan(\ln(x)))} \quad (18)$$

$$\frac{\cos(\ln(x))}{x} \quad (19)$$

$$-e^{e^x+x} \ln(e)^2 \sin\left(e^{e^x}\right) \quad (20)$$

2 Matrices

$$\begin{bmatrix} \frac{16}{37} & \frac{11}{37} & \frac{7}{37} \\ \frac{43}{37} & \frac{18}{37} & \frac{35}{37} \\ \frac{13}{37} & \frac{2}{37} & \frac{8}{37} \end{bmatrix} \quad (21)$$

$$\begin{bmatrix} -\frac{16}{105} & -\frac{11}{105} & -\frac{1}{105} \\ \frac{1}{35} & -\frac{3}{70} & \frac{9}{140} \\ -\frac{3}{35} & -\frac{17}{140} & -\frac{19}{280} \end{bmatrix} \quad (22)$$

$$\begin{bmatrix} \frac{5}{47} & -\frac{6}{47} & \frac{4}{47} \\ \frac{7}{235} & -\frac{48}{235} & \frac{3}{47} \\ -\frac{235}{235} & \frac{31}{235} & -\frac{47}{47} \end{bmatrix} \quad (23)$$

$$\begin{bmatrix} \frac{3}{79} & \frac{35}{158} & \frac{25}{158} \\ \frac{11}{79} & -\frac{23}{158} & \frac{39}{158} \\ -\frac{79}{79} & -\frac{158}{79} & -\frac{158}{79} \end{bmatrix} \quad (24)$$

$$\begin{bmatrix} -6 & \frac{11}{2} & 4 \\ 3 & -3 & -2 \\ 23 & -\frac{43}{2} & -15 \end{bmatrix} \quad (25)$$

$$\begin{bmatrix} \frac{15}{139} & \frac{21}{556} & -\frac{19}{139} \\ \frac{14}{139} & \frac{9}{139} & \frac{27}{139} \\ -\frac{139}{139} & \frac{139}{556} & \frac{139}{139} \end{bmatrix} \quad (26)$$

$$\begin{bmatrix} -\frac{7}{12} & -\frac{5}{12} & -\frac{1}{2} \\ \frac{49}{60} & -\frac{7}{12} & -\frac{1}{2} \\ \frac{37}{60} & \frac{7}{12} & \frac{1}{2} \end{bmatrix} \quad (27)$$

$$\begin{bmatrix} \frac{5}{16} & \frac{17}{240} & -\frac{9}{40} \\ \frac{1}{4} & \frac{20}{13} & -\frac{3}{10} \\ \frac{1}{8} & \frac{13}{120} & -\frac{1}{20} \end{bmatrix} \quad (28)$$

$$\begin{bmatrix} -\frac{2}{13} & \frac{1}{13} & -\frac{5}{26} \\ \frac{6}{13} & -\frac{3}{13} & \frac{1}{13} \\ \frac{13}{13} & -\frac{1}{13} & \frac{9}{13} \end{bmatrix} \quad (29)$$

$$\begin{bmatrix} \frac{15}{62} & -\frac{12}{31} & -\frac{2}{31} \\ \frac{20}{93} & \frac{32}{93} & -\frac{5}{93} \\ \frac{16}{93} & -\frac{7}{93} & \frac{4}{93} \end{bmatrix} \quad (30)$$

3 Algebra

$$x^3 - 67x - 126 \quad (31)$$

$$x^3 + 19x^2 + 116x + 224 \quad (32)$$

$$x^3 - 18x^2 + 105x - 196 \quad (33)$$

$$x^3 - 14x^2 + 53x - 40 \quad (34)$$

$$x^3 - 7x^2 - 14x + 120 \quad (35)$$

$$x^3 + 13x^2 + 34x - 48 \quad (36)$$

$$x^3 + 12x^2 + 44x + 48 \quad (37)$$

$$x^3 - 7x^2 - 34x + 40 \tag{38}$$

$$x^3 + 5x^2 - 94x - 560 \tag{39}$$

$$x^3 + 3x^2 - 70x - 144 \tag{40}$$