1 Differenciation

Differenciate the following expressions:

$$sec(tan(sin(x))) \tag{1}$$

$$cos(sin(x)) * *(-8) \tag{2}$$

$$tan(sin(csc(x))) \tag{3}$$

$$1/sec(1/x) \tag{4}$$

$$cos(tan(sin(x))) \tag{5}$$

$$1/tan(tan(x)) \tag{6}$$

$$e * *(-cos(x)) \tag{7}$$

$$log(1/tan(x)) \tag{8}$$

$$csc(cot(csc(x))) \tag{9}$$

$$sin(1/sin(x)) \tag{10}$$

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

$$e * *sin(sin(x)) \tag{12}$$

$$log(log(3 * x - 9)) \tag{13}$$

$$tan(e * *(2 * x)) \tag{14}$$

$$1/log(sin(x)) \tag{15}$$

$$cos(log(e * *x)) \tag{16}$$

$$1/sin(sec(x)) \tag{17}$$

$$log(cot(e * *x)) \tag{18}$$

$$cot(8 * x - 9) * *(-3) \tag{19}$$

$$log(5 - sin(x)) \tag{20}$$

2 Matrices

Calculate the inverse of the following:

$$Matrix([[-9, -6, -4], [9, 5, -3], [-2, -9, 7]]) \tag{21}$$

$$Matrix([[1, 3, 5], [-2, 0, -9], [-5, -3, -4]]) \tag{22}$$

$$Matrix([[8, 8, 5], [-5, 2, 5], [-4, 9, -3]]) \tag{23}$$

$$Matrix([[-8, 5, -6], [-5, -6, -2], [-2, 1, -6]]) \tag{24}$$

$$Matrix([[-5, 9, 2], [3, 5, -2], [4, -3, -1]]) \tag{25}$$

$$Matrix([[-6, 1, 6], [6, 8, 7], [6, -3, -1]]) \tag{26}$$

$$Matrix([[-8, -9, 8], [8, 5, 0], [9, -4, -8]]) \tag{27}$$

$$Matrix([[-8, -5, 8], [-1, -8, -6], [6, -3, -7]]) \tag{28}$$

$$Matrix([[-5, 3, -1], [5, -1, -1], [9, 7, 8]]) \tag{29}$$

$$Matrix([[-3, -6, -9], [1, -7, 4], [-2, -3, 1]]) \tag{30}$$