

20. EJERCICIOS PARA DERIVAR

$$64. y = \operatorname{artg} \frac{2x^2}{1-2x}$$

$$65. y = \operatorname{artg} \frac{2\sqrt{x}}{1-2x}$$

$$66. y = \operatorname{artg} \left(\frac{2x}{1-2x} \right)^2$$

$$67. y = \operatorname{artg} \frac{2-3x}{1-2x}$$

$$68. f(x) = \ln(\sqrt{x^2-4} - \sqrt{x^2+2x})$$

$$69. f(x) = \operatorname{sen} \frac{\sqrt{x-1}}{x^3-1}$$

$$70. f(x) = \sqrt{\frac{\sqrt{x^2-4x}}{x^2-9}}$$

$$71. f(x) = \cos \frac{x-1}{(x+1)^2-1}$$

$$72. f(x) = \ln \frac{\sqrt{x^2-1}}{x^2-4}$$

$$73. f(x) = \ln \sqrt{\frac{x^2-1}{x^2-4}}$$

$$74. f(x) = \frac{\operatorname{arcsen} \sqrt{x}}{1-\sqrt{1+x}}$$

CÁLCULO DIFERENCIAL-DERIVADAS

75. $f(x) = \frac{x^2 - 1}{\cos \sqrt{x} - 1}$

76. $f(x) = \cos(\cos^2(\frac{\sqrt{x-1}}{\sqrt{x-1}}))$

77. $g(x) = \text{sen}^3(\frac{\sqrt{x-1}}{x^3-1})$

78. $f(x) = \ln(\ln(x^2 + 2x + 1))$

79. $f(x) = \sqrt[3]{\frac{1}{x-2} - \frac{1}{x^3-8}}$

80. $f(x) = \sqrt{\sqrt{x^2+4}}$

81. $f(x) = e^{-x^2+2x-1}$

CÁLCULO DIFERENCIAL-DERIVADAS

$$82. f(x) = e^{-\sqrt{x} + 2x-1} \cdot \ln x$$

$$83. f(x) = \ln \sqrt[3]{\sqrt{x^2 + 4}}$$

$$84. f(x) = \cos^3\left(\cos^2\left(\frac{2}{\sqrt{x-1}}\right)\right)$$

$$85. f(x) = \sqrt[3]{\ln \sqrt{\frac{x^2 - 1}{x^2 - 4}}}$$

$$86. f(x) = \ln \sqrt{\frac{1 - \sec x}{1 + \sec x}}$$

$$87. f(x) = \ln \sqrt{\frac{1 - e^x}{1 + e^x}}$$

CÁLCULO DIFERENCIAL-DERIVADAS

$$88. f(x) = \ln \sqrt{\frac{1-2x}{1+2x}}$$

$$89. f(x) = \ln \left(\sqrt{\frac{1-e^x}{1+e^x}} \right)^3$$

$$90. f(x) = \frac{1-e^{-2x}}{1+e^{2x}}$$

$$91. f(x) = \frac{1-2^{-2x}}{1+2^{2x}}$$

$$92. y = \operatorname{artg} \frac{1-\operatorname{sen} x}{1+\operatorname{sen} x}$$

$$93. \quad f(x) = \frac{1 - \operatorname{tag} x}{1 + \operatorname{tag} x}$$

$$94. \quad f(x) = \ln \sqrt{\frac{1 - e^{-2x}}{1 + e^{2x}}}$$

$$95. \quad f(x) = \ln \sqrt{\frac{1 - \cos x}{1 + \cos x}}$$

$$96. \quad f(x) = \sqrt{\frac{1 - \cos x}{1 + \cos x}}$$

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