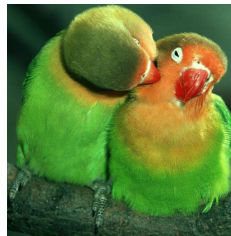


BUDGIE CALC

Studying rational functions



Birds Linux

Study the features of a rational function

Set the function

- Specify the numerator and denominator in the corresponding (“Num(x)”, “Den(x)”) text fields using LaTeX syntax (without braces for specifying exponents)
- Type the plot and integration interval in the “Interval” text field (e.g. insert “0,10” for the interval $[0,10]$)
- Press the “Domain” button to check the domain of the rational function
- Now, the function is addable to the combo box using the “Add” button

Study the features of the function

Press “Study” button to study the combo box selected function:

- Set of positivity
- Points of intersection with the axes
- Limits
- Asymptotes
- Derivative
- Stationary points
- Integral
- Surface
- Average Value

Plotting function

The features of these buttons (f is the combo box selected function):

- “Plot $f(x)$ ” : plotting f or a f derivative (specifying the derivative order)
- “NUM(x)” : plotting the numerator of f
- “DEN(x)” : plotting the denominator of f
- “Tangent line” : plotting f and the tangent line in x_0
- “Taylor” : plotting the 3rd grade f Taylor polynomial in x_0

Study of a logarithmic function

Now, f is the argument of a logarithmic function

- Specify the logarithmic base in the “log base” text field
- Press the “Study log a $f(x)$ ” button to study the composite function
- Plot the composite function using the “Plot log a $f(x)$ ” button