Answer on Question#37425 - <Math> - <Calculus>

Sketch solution curves for the following equation:
y' = 0.5y-sin y

Solution:
First-order nonlinear ordinary differential equation:

$$y' = 0.5y - \sin y$$
$$\frac{dy}{dx} = 0.5y - \sin y$$
$$\frac{dy}{0.5y - \sin y} = dx$$
$$\int \frac{dy}{0.5y - \sin y} = \int dx$$
$$x = \int \frac{dy}{0.5y - \sin y}$$

This integral can not be found explicitly, but we can use the program to build a solution curves.

Solution curves for the following equation: