

Calculus Quiz

Your Name:

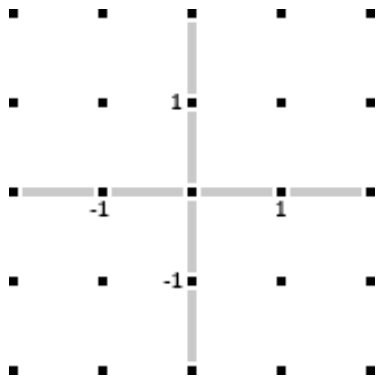
Show all work.

1.
$$y' = \frac{e^x}{e^y}$$

For the given differential equation:

- Sketch its direction field.
- Sketch the solution that goes through the point $(-2,0)$.
- For the solution that goes through the point $(-2,0)$ use Euler's Method to approximate the value of y when $x = 0$. Use a step size of 0.5.
- Solve the differential equation.
- Give the equation for the solution that goes through the point $(-2,0)$.

a. and b.



c.

d.

e.

2. Solve the differential equation.

$$y' = 3x^2y^3$$



3. Solve the initial-value problem.

$$(2 + \sin x)y' = e^y \cos x, \quad y(1) = 4$$

