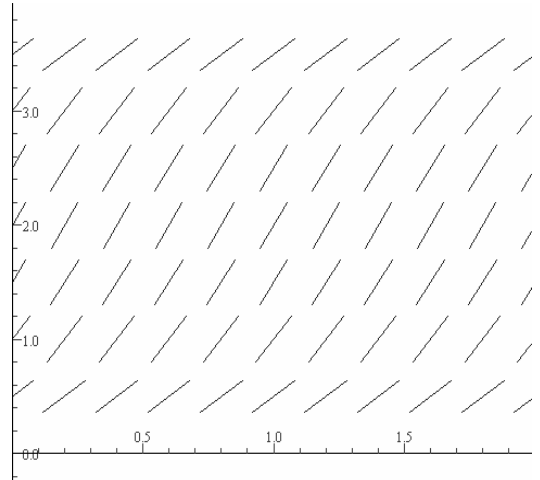


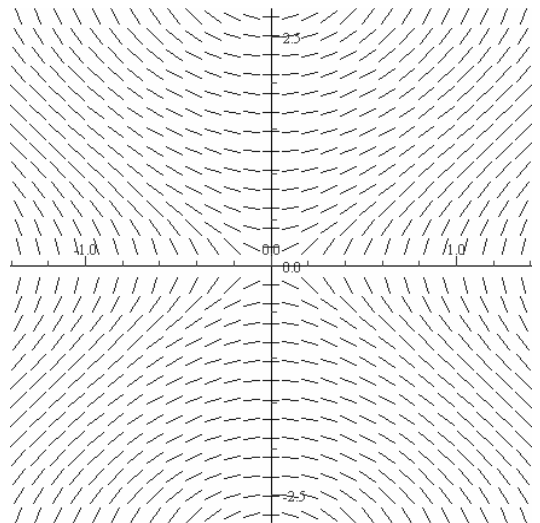
1. A slope field for $y' = y(a - y)$ is shown, where a is a constant.

- (i) Given $y(0) = 0.5$, estimate the values of $y(0.5)$ and $y(1.0)$.
 (ii) Estimate the value of a .



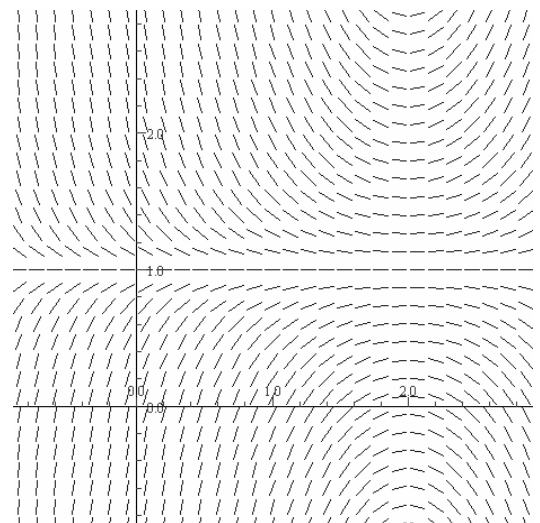
2. A slope field for $y' = \frac{a \sin x}{\sin y}$ is shown, where a is a constant.

- (i) Given $y(0) = 1.0$, estimate the values of $y(0.5)$ and $y(1.0)$.
 (ii) Estimate the value of a .



3. A slope field for $y' = k(x - a)(y - b)$ is shown, where k , a and b are constants.

- (i) Given $y(1) = 0.5$, estimate the values of $y(0.5)$ and $y(2.0)$.
 (ii) Estimate the values of k , a and b .



Answers 3(i) -0.45, 0.83 (ii) 2, 2, 1 2(i) 0.8, 1.55 (ii) 2 1(i) 1.9, 3.6 (ii) 4