

## Problem 30

In each of Problems 26 through 33, draw a direction field for the given differential equation. Based on the direction field, determine the behavior of  $y$  as  $t \rightarrow \infty$ . If this behavior depends on the initial value of  $y$  at  $t = 0$ , describe this dependency. Note that the right sides of these equations depend on  $t$  as well as  $y$ ; therefore, their solutions can exhibit more complicated behavior than those in the text.

$$y' = 3 \sin t + 1 + y$$