

Name:

Section: 5 6 9 10

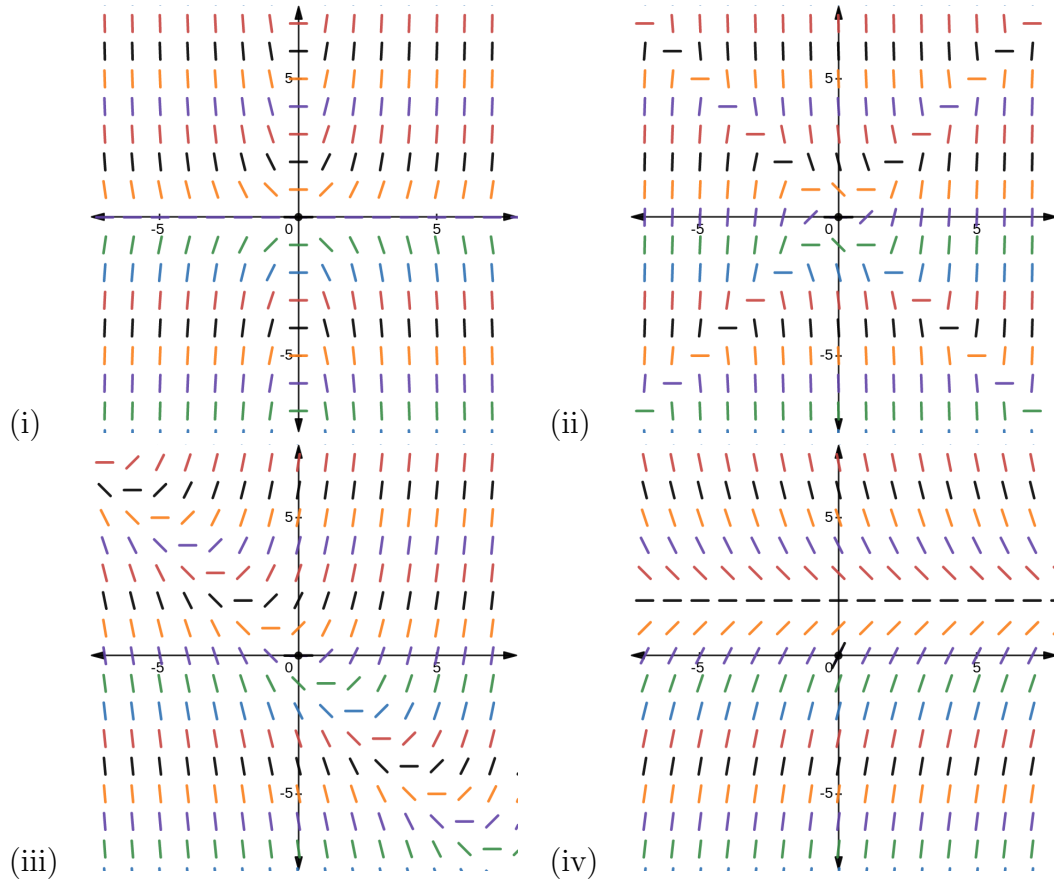
1. Match the differential equation with its direction field. Draw two solution curves on each direction field.

$$y' = 2 - y$$

$$y' = xy$$

$$y' = x + y$$

$$y' = x^2 - y^2$$



2. Show that $y = e^{-2x}$ is a solution to the differential equation

$$y'' + y' - 2y = 0$$

3. Use Taylor's inequality to find an upper bound on the maximum error in using $T_2(x)$ centered at $a = 1$ to approximate $f(x) = x^{2/3}$ over $0.9 \leq x \leq 1.1$.