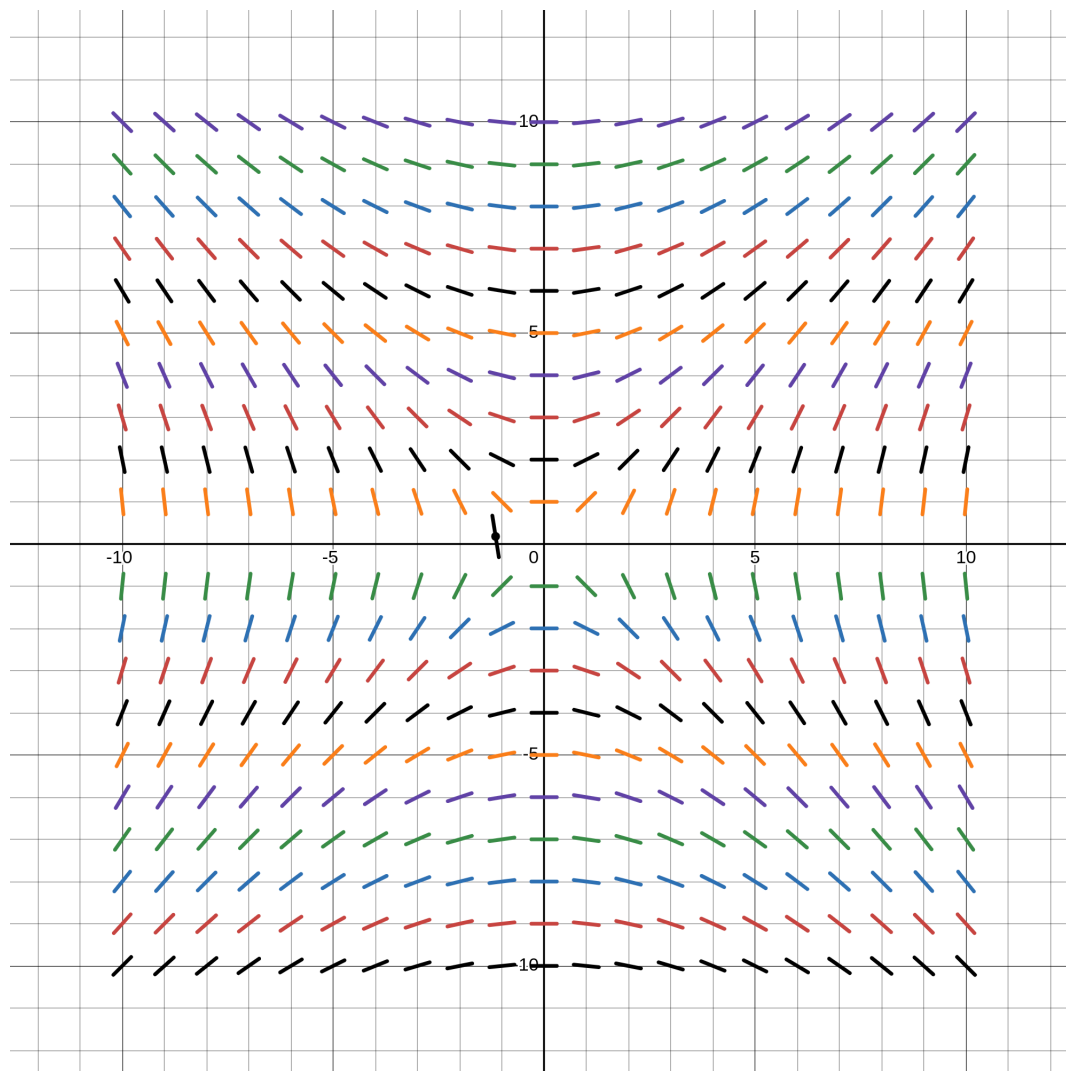


Name:

Section: 11 12 13

1. Match the DE with the direction field. Sketch the solution curve satisfying $y(0) = 2$.



- (i) $y' = \frac{y}{x}$
 (ii) $y' = \frac{x}{y}$
 (iii) $y' = -\frac{y}{x}$
 (iv) $y' = -\frac{x}{y}$

2. Show that $y = \frac{1}{x}$ is a solution to the DE $x^3y''' + x^2y'' - 2xy' + 2y = 0$.

3. Find an upper bound for the error in using the approximation $x^{1/2} \approx T_2(x)$ (centered at $a = 4$) for $2 \leq x \leq 6$.