

## AP CALCULUS AB

1) Solve

$$\frac{dy}{dx} = -\frac{y}{2\sqrt{x}}$$

for  $y = y(x)$  subject to the initial condition  $y(0) = 4$ .

## SEPARABLE DIFFERENTIAL EQUATIONS

2) Solve

$$\frac{dy}{dx} = -\frac{4x}{9y}$$

subject to the initial condition  $y(0) = 2$ . (*Hint:* the solution is an ellipse). Also, graph the solution  $y = y(x)$  on the slope field provided.

