

### (9.3) Separable Equations

Full Name: \_\_\_\_\_

1. Find the general solutions of the following differential equations.

(a)  $\frac{dy}{dx} = \frac{3x^2}{5y^4}$

(b)  $\frac{dy}{dx} = \frac{y^2}{x}$

2. Find the solution that satisfies the given initial condition.

(a)  $\frac{dy}{dx} = 2y, \quad y(0) = 4.$

(b)  $\frac{dy}{dx} = x \cos^2 y, \quad y(1) = 0.$