7.6 Separation of Variables (General Solutions)

CA #1

Calculus Name: _____

Find the general solution of each differential equation.

1. $\frac{dy}{dx} = 3e^{x-y}$

2. $\frac{dy}{dx} = \frac{x^2}{2y}$

3. $\frac{dy}{dx} = y\cos x$

4. $\frac{dy}{dx} = 6x(y-1)$

5. $\frac{dy}{dx} = \frac{2x+1}{10y}$

6. $\frac{dy}{dx} = 4xy^2$

Answers to 7.6 CA #1

1. $y = \ln(3e^x + C)$	2. $y = \pm\sqrt{\frac{1}{3}x^3 + C}$	3. $y = Ce^{\sin x}$
4. $y = Ce^{3x^2} + 1$	5. $y = \pm\sqrt{\frac{1}{5}x^2 + \frac{1}{5}x + C}$	6. $y = -\frac{1}{2x^2+C}$