

Name: _____
AP Calculus AB: Separable Differential Equations Homework

Date: _____
Ms. Loughran

For each of the following, solve for y .

1. Solve for y if $\frac{dy}{dx} = -\sin x$ and $y = 2$ when $x = 0$.

2. $\frac{dy}{dx} = \sqrt[3]{x}$ and $y = 2$ when $x = 1$.

3. $\frac{dy}{dx} = \frac{1}{x}$ and $y = 5$ when $x = -1$.

4. $\frac{dy}{dx} = \frac{x+1}{\sqrt{x}}$ and $y = 0$ when $x = 1$.

5. Find the general form of a function, $(f(x))$, whose second derivative is $f''(x) = \sqrt{x}$.