

Quiz #1
MA 238-02

Name: _____
1/9/09

1. Let $y(x) = A \cos x + B \sin x$ where A and B are arbitrary constants.
 - (i) Verify that $y(x)$ is a solution to $\frac{d^2 y}{dx^2} + y = 0$.
 - (ii) Find a solution to the initial value problem $\frac{d^2 y}{dx^2} + y = 0$ with $y(0) = 2$ and $y'(0) = 3$.

2. (i) Let $y(x)$ be a solution of $\frac{dy}{dx} = 3xy + x$ with $y(1) = 2$. Find $y'(1)$.
- (ii) Let $y(x)$ be a solution of $\frac{dy}{dx} = 3xy + x$ with $y'(1) = 2$. Find $y(1)$.