$$a_y = \frac{d^2y}{dt^2} =$$

$$y(t) = A\cos(\omega t + \phi)$$

$$\frac{d\,f(x)}{dx} = A$$

$$\frac{d\,f(x)}{dx} = 0$$

$$\frac{d\,f(x)}{dx} = f(x)$$

$$\frac{d\,f(x)}{dx} = -f(x)$$

$$\frac{d\,f(x)}{dx} = Af(x)$$

$$\frac{d^2\,f(x)}{dx^2} = 0$$

$$\frac{d^2\,f(x)}{dx^2} = A$$

$$\frac{d^2\,f(x)}{dx^2} = Af(x)$$

$$\frac{d^2\,f(x)}{dx^2} = -Af(x)$$