1 Derivatives of other functions

1. Find $\frac{dy}{dx}$ for each of the following

(i)
$$y = x \ln(x^2 + 1)$$

(ii)
$$y = \sin(xe^x)$$

2. Find $\frac{dy}{dx}$ for each of the following

(i)
$$y = xe^{x^2+3}$$

(ii)
$$y = (4 + x \ln x)^5$$