

DIFFERENTIATION WORKSHEET IV

Find the following derivatives:

$$(1) \frac{d}{dx}(3x \cos(x))$$

$$(2) \frac{d}{d(2x)}(\cos(2x))$$

,

$$(3) \frac{d}{dy} \left(\frac{2y}{e^y} \right)$$

$$(4) (x^4 \sin(x))'$$

$$(5) (\sin(3x^2 + 4))'$$

,

$$(6) \frac{d}{dx}(e^x \sin(x^2))$$

,

$$(7) \frac{d}{dt}(e^{e^t})$$

,

$$(8) \frac{d}{dx} \left(\frac{2x \sin(x)}{e^x} \right)$$

$$(9) (e^{5x^2+3x+1})'$$