Author 1 _____ ☐

Author 2 _____ ☐

Author 3 _____ ☐

Author 4 _____ ☐

Worksheet 11

1. Find $\dfrac{dy}{dx}$

(a) $y = \arcsin(x) \cdot \ln(x)$

(b) $y = \ln\left(\dfrac{\arctan(x)}{\log_3(x)}\right)$

(c) $e^{2x}y = \ln(y^3)$

2. Consider the function $f(x) = x^{\sin x}$.

(a) Suppose a classmate tells you that $f'(x) = (\sin x)x^{(\sin x)-1}$. What are they thinking? What is the error?

(b) Find $f'(x)$ by using **logarithmic differentiation**.