

# Math 33B: Review “Quiz”

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1. Evaluate the following derivatives:

$$(a) \frac{d}{dx} x^{101}$$

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

$$(c) (\arcsin(3x))'$$

2. Evaluate the following integrals:

$$(a) \int \tan x \, dx$$

$$(b) \int \frac{1}{x} dx$$

$$(c) \int \frac{1}{4-x^2} dx$$

$$(d) \int \frac{1}{x^2+1} dx$$

$$(e) \int x \cos x \, dx$$

$$(f) \int \left( \sin x - e^{3x} + \frac{1}{x^3} + 5x^2 \right) dx$$