

Topic 14: Higher order derivatives

Find the indicated derivative.

1. $f''(x)$ for $f(x) = x^4 - 3x^3 + 2x^2 - x - 1$

2. $f'''(x)$ for $f(x) = xe^{2x}$

3. $f''(x)$ for $f(x) = \tan x$

Answers

1) $f''(x) = 12x^2 - 18x + 4$

2) $f'''(x) = (12 + 8x)e^{2x}$

3) $f''(x) = 2\sec^2 x \tan x$