

# Calculus - Differentiation

## Grade 11 | Difficulty: Medium

1. Find  $d/dx$  of  $f(x) = x^4 - 3x^2 + 2$ .
2. Differentiate:  $y = e^x \ln(x)$ .
3. Find the second derivative of  $f(x) = \sin(x)$ .
4. Determine the concavity of  $f(x) = x^3 - 3x + 2$ .
5. Find the equation of the tangent line to  $f(x) = x^2$  at  $x = 1$ .