

Worksheet: Limits and Derivatives

Maharashtra State Board · Class 11 · Mathematics · 3 questions · 12 marks

Name: _____

Date: _____

Score: _____ / 12

Q1. Evaluate: $\lim_{x \rightarrow 2} \frac{(x^2 - 4)}{(x - 2)}$. [2 marks]

Q2. Find the derivative of $f(x) = x^3$ from first principles. [4 marks]

Q3. Differentiate $y = x^2 \sin x$ using the product rule, then evaluate $\frac{dy}{dx}$ at $x = \frac{\pi}{2}$. [6 marks]
