

Lesson 5.2: Increasing/Decreasing Functions & The First Derivative TestThe First Derivative Test

The first derivative test can be used to determine on which _____ a function is increasing or decreasing.

Procedure:

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Examples: List the intervals in which the function is increasing and decreasing.

1. $f(x) = (x^2 - 9)^{\frac{2}{3}}$

2. $y = x - 2 \sin(x)$ on $(0, 2\pi)$

3. $f(x) = \frac{x^4 + 3}{3x}$

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

Example #4 is a _____ function.

Strictly increasing or decreasing functions are called _____ .

Example #4 illustrates:

1.

2.

