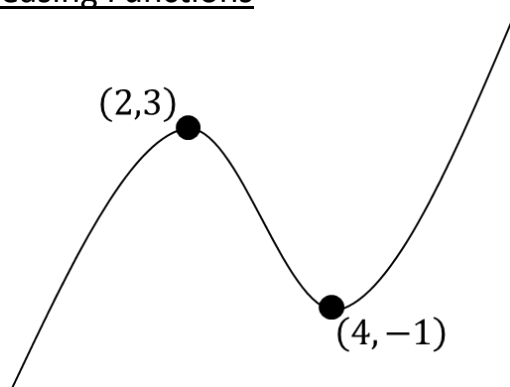Increasing and Decreasing Functions

(2,3)

$(4,-1)$

Examples

1. Show that the function
$f(x) = x^3 + 6x^2 + 21x + 2$ is increasing for all real values of x.

2. Find the interval on which the function $f(x) = x^3 + 3x^2 - 9x$ is decreasing.

Test Your Understanding

1. Show that the function
$f(x) = x^3 + 16x - 2$ is increasing for all real values of x.

2. Find the interval on which the function $f(x) = x^3 + 6x^2 - 135x$ is decreasing.

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