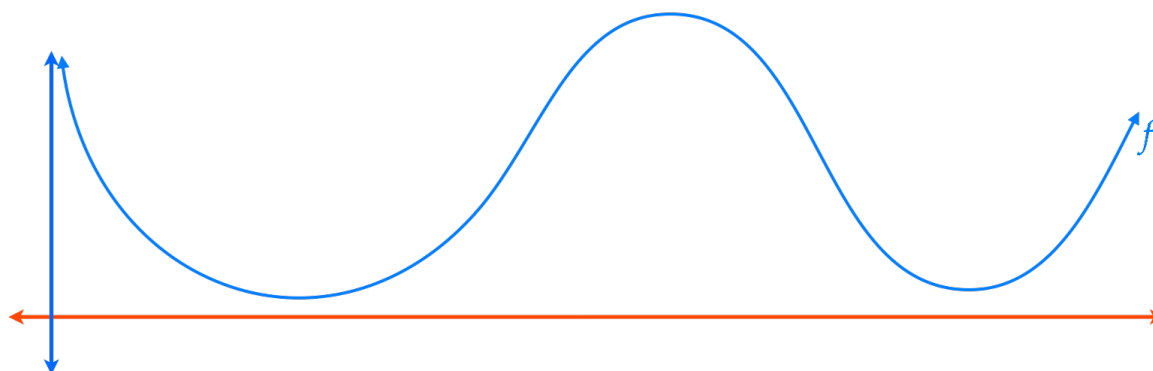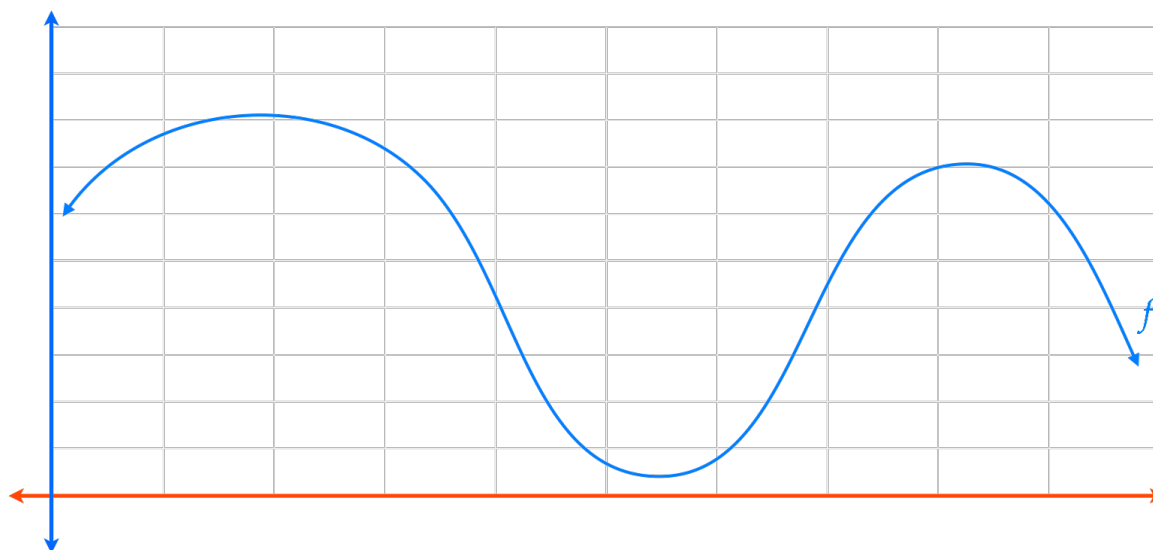# Concavity

Concavity

Let function f be differentiable on an open interval I. The graph of f is…

1. Concave upward on I if f' is increasing

2. Concave downward on I if f' is decreasing

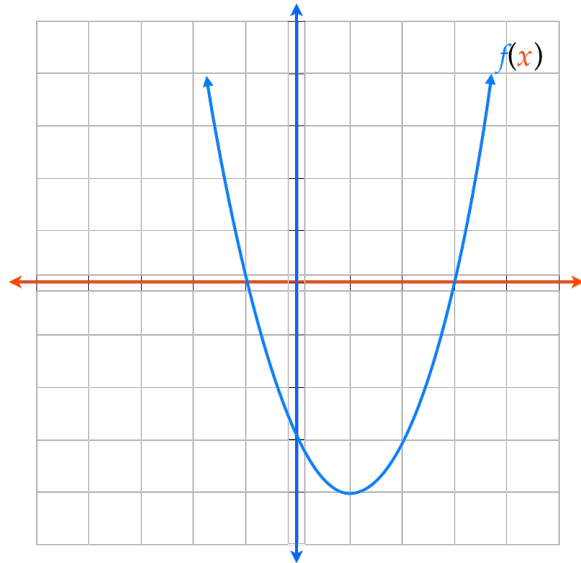Find the intervals of concavity for the following function

Test for the Concavity for Function f

Let f be a function whose second derivative exists on an open interval I.

1. If $f''(x) > 0$, then f is concave upward on I.

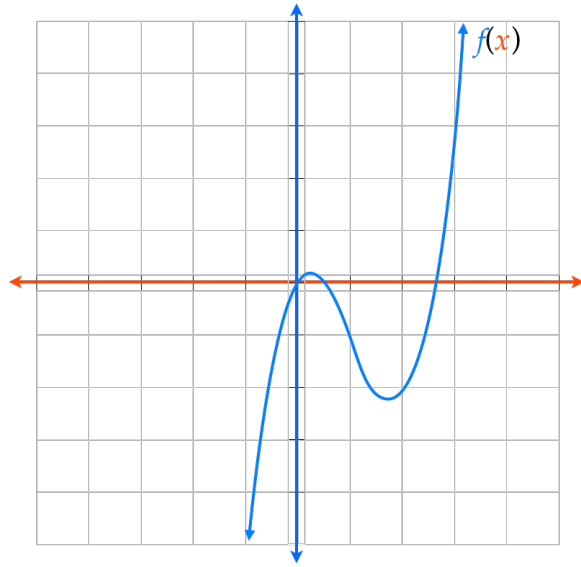2. If $f''(x) < 0$, then f is concave downward on I.

Find the intervals of concavity for the following.
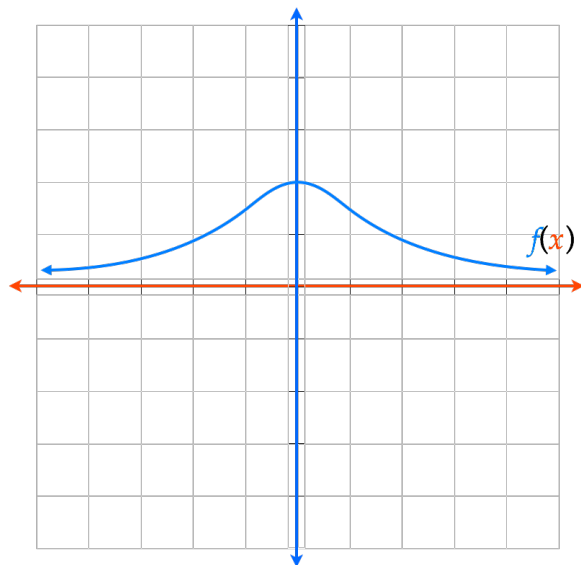
$f(x) = x^2 + 2x - 3$

$f(x)$

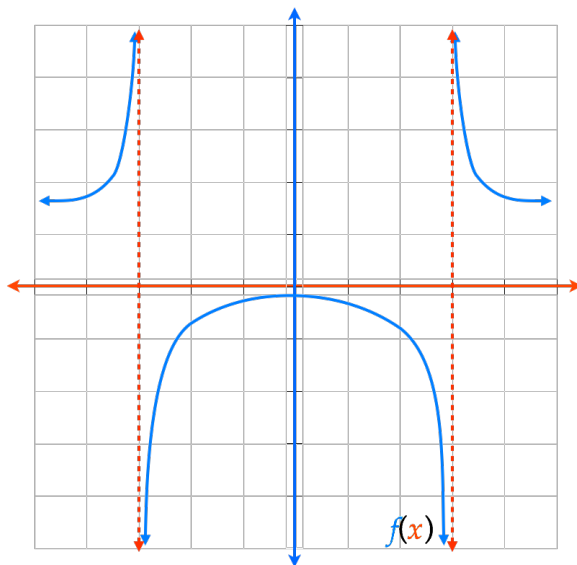Find the intervals of concavity for the following.

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

Find the intervals of concavity for the following.

$f(x) = \dfrac{6}{x^2 + 3}$

Find the intervals of concavity for the following.

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

Test for the Concavity for Function f

Let f be a function whose second derivative exists on an open interval I.

1. If $f''(x) > 0$, then f is concave upward on I.

2. If $f''(x) < 0$, then f is concave downward on I.