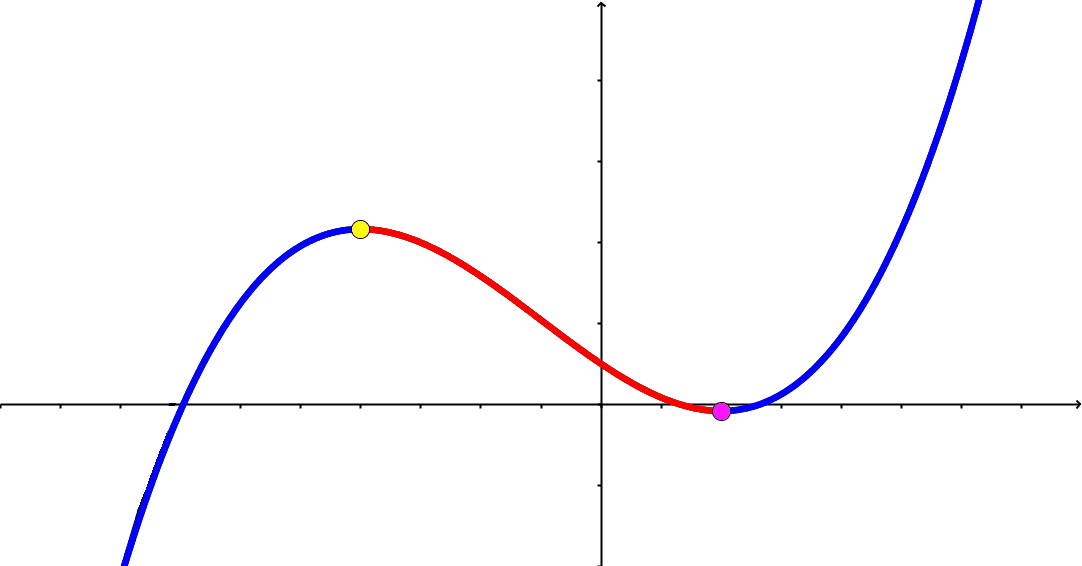
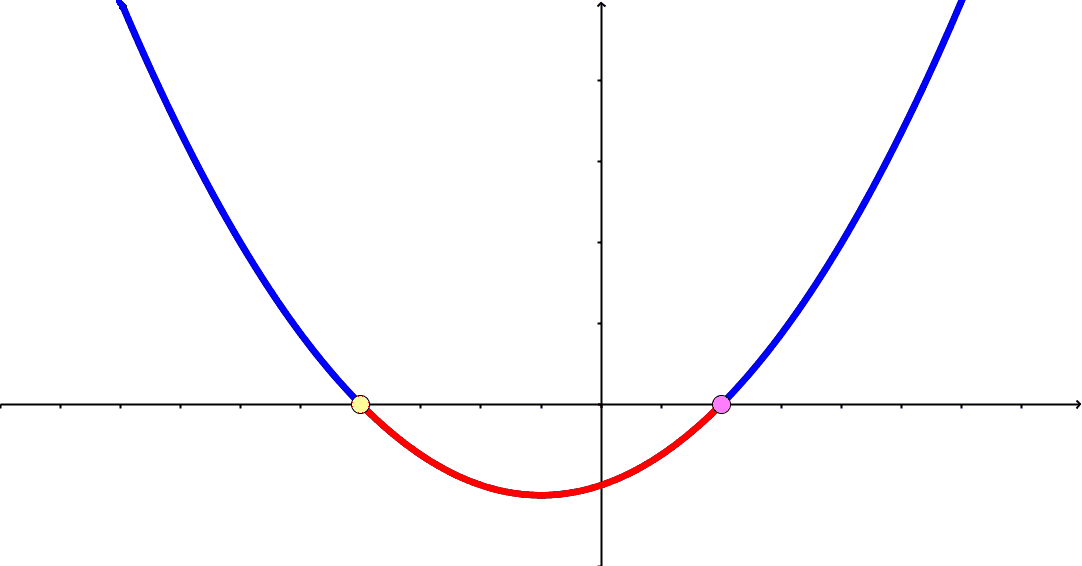
Local Maxima and Minima

Recall: We say that a function, , is increasing if

We say that a function, , is decreasing if

We say that a function, , is constant if

f(x) f ‘(x)

Definition: We say that has a local minimum at if

Definition: We say that has a local maximum at if

Definition: We say has a critical point at if

First Derivative Test:

If then:

has a local max ; and is concave

has a local min ; and is concave

Second Derivative Test:

If then:

Example: Find all critical points of and classify them as local max, local min, or neither.

Warning Ex: Find and classify all critical points of

