Graphs of functions and their derivatives

Example:

A function f is continuous on the interval [-4, 3] with the following properties.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Intervals | -4 < x < -2 | X = -2 | -2 < x < 1 | X = 1 | 1 < x < 3 |
| *f’* | -- | 0 | -- | DNE | + |
| *f’’* | + | 0 | -- | DNE | -- |

1. Find the x-coordinates of all relative extrema on the domain [-4, 3]. Classify

 them as relative max or relative mins. Justify your answer.

1. Find the x-coordinates of any point of inflection on the domain [-4, 3]. Justify your answer.
2. Sketch a possible graph of f(x), given that f(-4) = 6 and f(3) = 2.