

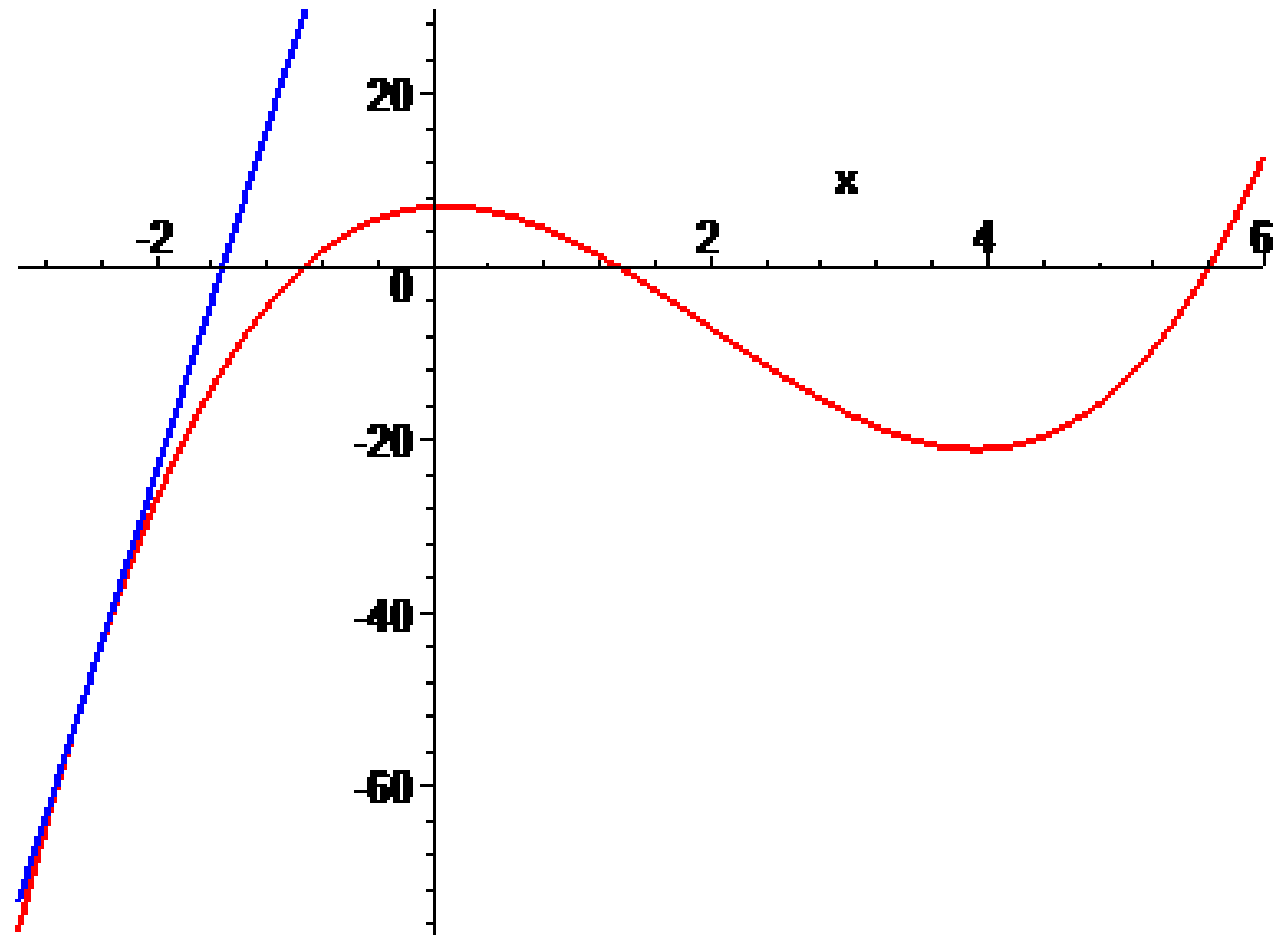


# HOW DERIVATIVES AFFECT THE SHAPE OF THE GRAPH

LESSON 3.3



# INCREASING/DECREASING



## PROBLEM

**For each of the problems below, do the following:**

- (a) Find the critical number(s).**
- (b) State the intervals of increase/decrease.**
- (c) Use the FDT to classify the extreme values.**
- (d) Use your calculator to confirm your findings.**

$$(a) f(x) = x^2 - 4x$$

$$(b) g(x) = (x^2 - 9)^{2/3}$$

$$(c) y = x\sqrt{6-x}$$

$$(d) h(x) = x + 2\sin x, \quad 0 \leq x \leq 2\pi$$