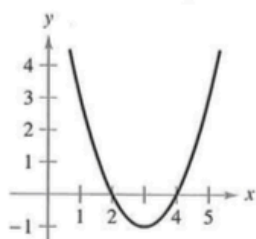


AUC apCalculus BC

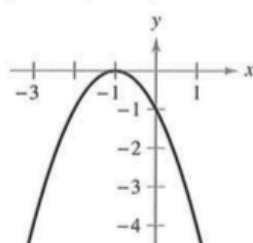
Classwork Assignment GP3.CW6

In Exercises 3–8, use the graph to estimate the open intervals on which the function is increasing or decreasing. Then find the open intervals analytically.

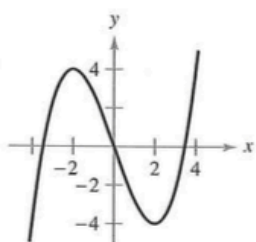
3. $f(x) = x^2 - 6x + 8$



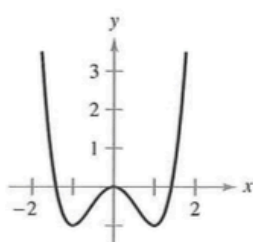
4. $y = -(x + 1)^2$



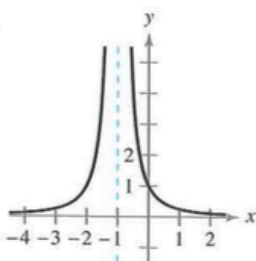
5. $y = \frac{x^3}{4} - 3x$



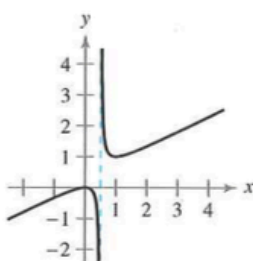
6. $f(x) = x^4 - 2x^2$



7. $f(x) = \frac{1}{(x + 1)^2}$

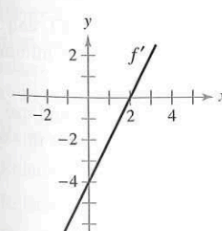


8. $y = \frac{x^2}{2x - 1}$

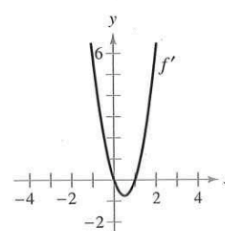


In Exercises 65–68, use the graph of f' to (a) identify the interval(s) on which f is increasing or decreasing, and (b) estimate the value(s) of x at which f has a relative maximum or minimum.

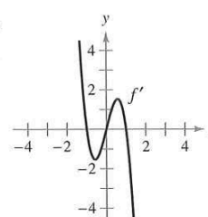
65.



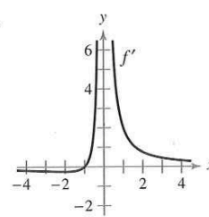
66.



67.

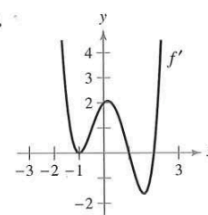


68.

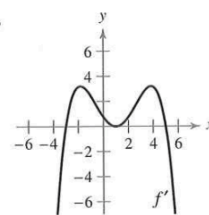


In Exercises 69 and 70, use the graph of f' to (a) identify the critical numbers of f , and (b) determine whether f has a relative maximum, a relative minimum, or neither at each critical number.

69.



70.



1. Study and learn the statements & proofs of Rolle's Theorem & The Mean Value Theorem and upload them on Archie. You will write a 15 min quiz on it tomorrow.
2. Find the absolute extrema for the following fns in the given intervals:

17. $f(x) = 3 - x, [-1, 2]$:

19. $g(x) = x^2 - 2x, [0, 4]$

20. $h(x) = -x^2 + 3x - 5, [-2, 1]$

21. $f(x) = x^3 - \frac{3}{2}x^2, [-1, 2]$:

23. $y = 3x^{2/3} - 2x, [-1, 1]$:

25. $g(t) = \frac{t^2}{t^2 + 3}, [-1, 1]$:

27. $h(s) = \frac{1}{s - 2}, [0, 1]$:

29. $y = 3 - |t - 3|, [-1, 5]$

30. $g(x) = \frac{1}{1 + |x + 1|}, [-3, 3]$