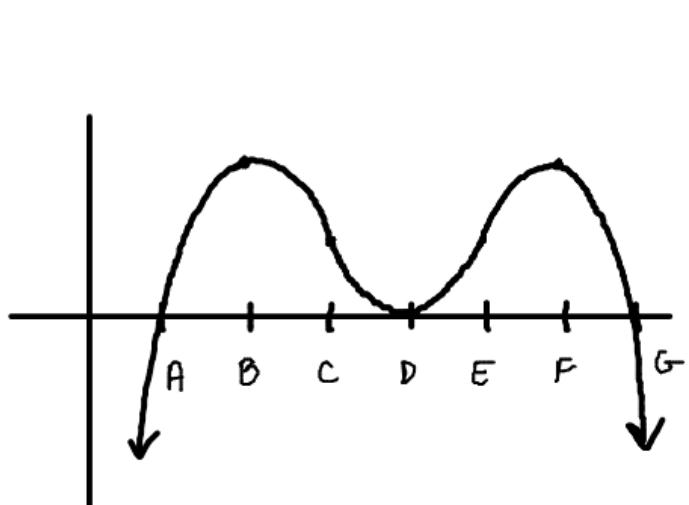
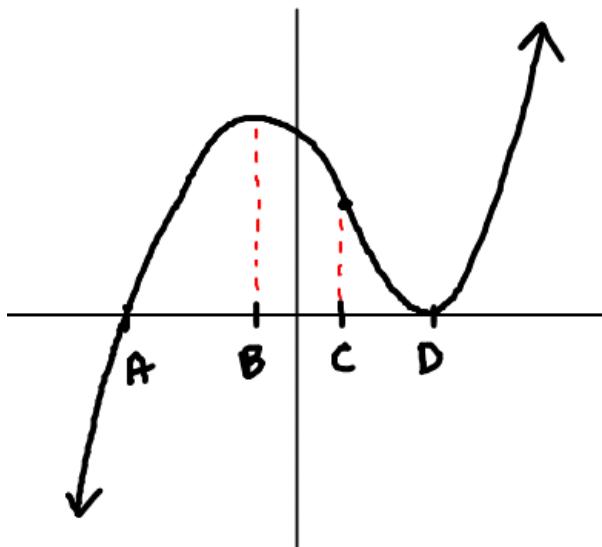


AP Calculus BC

Section 4.3 – Increasing/Decreasing/Concavity/POI Graphically

Given the graph of the function determine at what points or on what interval(s):

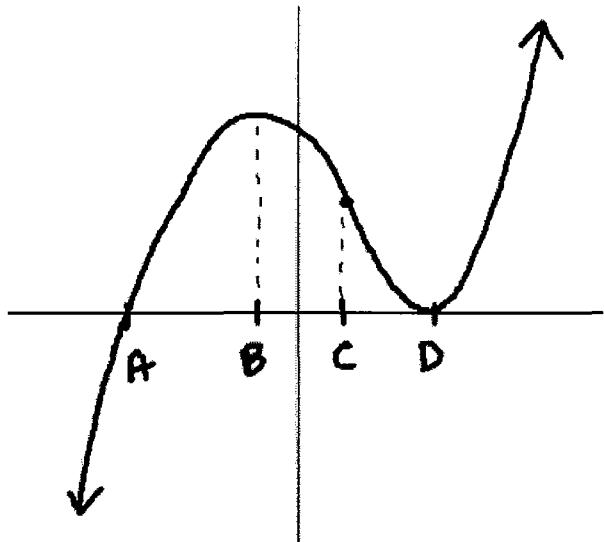


1. $f(x) = 0$
2. $f(x) > 0$
3. $f(x) < 0$
4. $f'(x) = 0$
5. $f'(x) < 0$
6. $f'(x) > 0$
7. $f''(x) = 0$
8. $f''(x) < 0$
9. $f''(x) > 0$
10. $f'(x) < 0$ and $f''(x) < 0$
11. $f'(x) < 0$ and $f''(x) > 0$
12. $f'(x) > 0$ and $f''(x) < 0$
13. $f'(x) > 0$ and $f''(x) > 0$
14. $f'(x) = 0$ and $f''(x) < 0$
15. $f'(x) = 0$ and $f''(x) > 0$
16. $f(x) = 0$
17. $f(x) > 0$
18. $f(x) < 0$
19. $f'(x) = 0$
20. $f'(x) < 0$
21. $f'(x) > 0$
22. $f''(x) = 0$
23. $f''(x) < 0$
24. $f''(x) > 0$
25. $f'(x) < 0$ and $f''(x) < 0$
26. $f'(x) < 0$ and $f''(x) > 0$
27. $f'(x) > 0$ and $f''(x) < 0$
28. $f'(x) > 0$ and $f''(x) > 0$
29. $f'(x) = 0$ and $f''(x) < 0$
30. $f'(x) = 0$ and $f''(x) > 0$

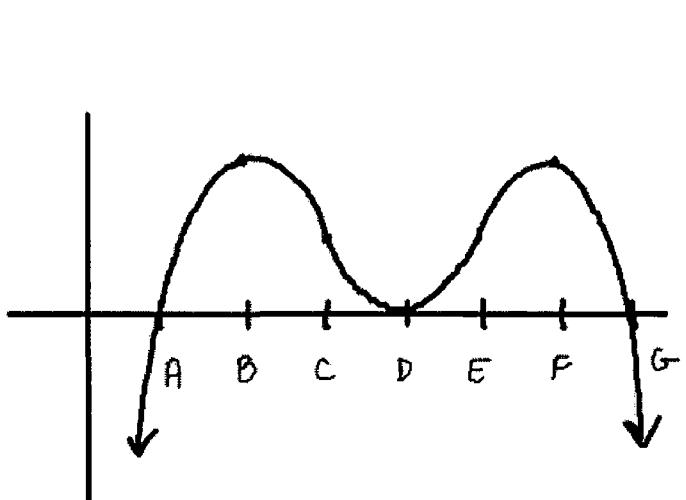
AP Calculus BC

Section 4.3 – Increasing/Decreasing/Concavity/POI Graphically

Given the graph of the function determine at what points or on what interval(s):



1. $f(x) = 0$ A, D
2. $f(x) > 0$ $(-\infty, A) \cup (D, \infty)$
3. $f(x) < 0$ (A, D)
4. $f'(x) = 0$ B, D
5. $f'(x) < 0$ (B, D)
6. $f'(x) > 0$ $(-\infty, B) \cup (D, \infty)$
7. $f''(x) = 0$ C
8. $f''(x) < 0$ $(-\infty, C)$
9. $f''(x) > 0$ (C, ∞)
10. $f'(x) < 0$ and $f''(x) < 0$ (B, C)
11. $f'(x) < 0$ and $f''(x) > 0$ (C, D)
12. $f'(x) > 0$ and $f''(x) < 0$ $(-\infty, B)$
13. $f'(x) > 0$ and $f''(x) > 0$ (D, ∞)
14. $f'(x) = 0$ and $f''(x) < 0$ B
15. $f'(x) = 0$ and $f''(x) > 0$ D



16. $f(x) = 0$ A, D, G
17. $f(x) > 0$ $(A, D) \cup (D, G)$
18. $f(x) < 0$ $(-\infty, A) \cup (G, \infty)$
19. $f'(x) = 0$ B, D, F
20. $f'(x) < 0$ $(B, D) \cup (F, \infty)$
21. $f'(x) > 0$ $(-\infty, B) \cup (D, F)$
22. $f''(x) = 0$ C, E
23. $f''(x) < 0$ $(-\infty, C) \cup (E, \infty)$
24. $f''(x) > 0$ (C, E)
25. $f'(x) < 0$ and $f''(x) < 0$ $(B, C) \cup (F, \infty)$
26. $f'(x) < 0$ and $f''(x) > 0$ (C, D)
27. $f'(x) > 0$ and $f''(x) < 0$ $(-\infty, B) \cup (E, F)$
28. $f'(x) > 0$ and $f''(x) > 0$ (D, E)
29. $f'(x) = 0$ and $f''(x) < 0$ B, F
30. $f'(x) = 0$ and $f''(x) > 0$ D