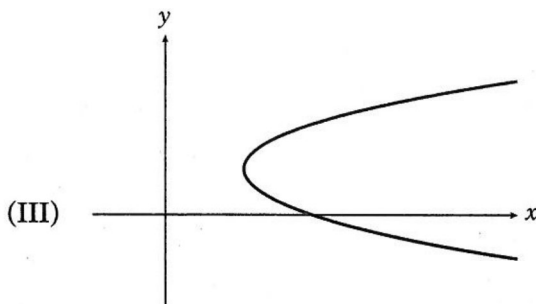
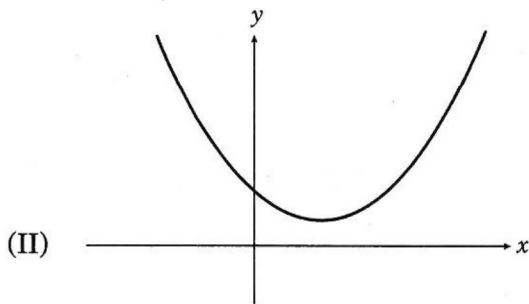
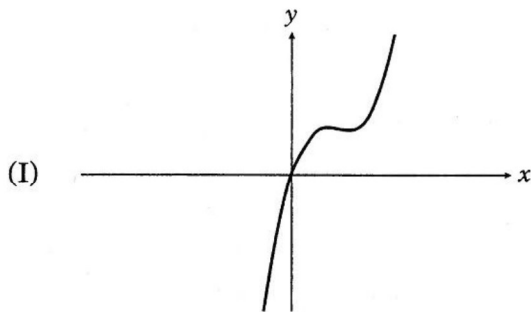


Exercises

Multiple-Choice Questions

No calculator is allowed for these questions.

1. Which of the following graphs show(s) a function that has an inverse?



- (A) None
 (B) I only
 (C) II only
 (D) I and II

2. Find the inverse of the equation $y = 2x^3 + 1$.

- (A) $y^{-1} = \frac{2}{x^3} + 1$
 (B) $y^{-1} = -2x^3 + 1$
 (C) $y^{-1} = \sqrt[3]{\frac{x-1}{2}}$
 (D) $y^{-1} = \frac{\sqrt[3]{x-1}}{2}$

3. The graphs of a function and its inverse are reflections of each other across

- (A) the x -axis.
 (B) the y -axis.
 (C) the origin.
 (D) $y = x$.

4. The composition of a function f and its inverse is equal to

- (A) -1
 (B) 0
 (C) 1
 (D) x

Free-Response Questions

A graphing calculator is required for some questions.

1. (a) Sketch the graph of $y = -e^{-x}$. State its domain and range.
 (b) On the calculator, enter $\boxed{2nd}$ DRAW 8: DrawInv Y_1 , and sketch the inverse you see on your screen onto your graph from part (a). the inverse onto your graph.
 (c) Solve algebraically for the inverse of $y = -e^{-x}$.
 (d) Enter the equation of the inverse in Y_2 . Graph it and examine the symmetry to check that it is in fact the equation of the inverse.
2. (a) Find the domain and range of the function $y = \sqrt{x-2} + 1$, and sketch the graph.
 (b) Find the domain and range of the of the inverse of y , and solve algebraically for the equation of the inverse.
3. Sketch the inverse of the function shown here.

