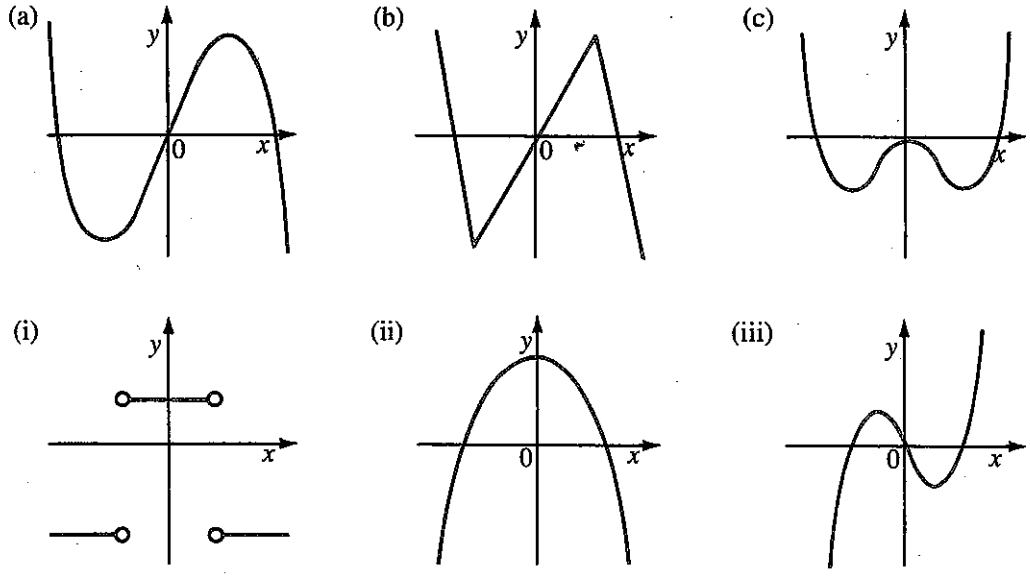
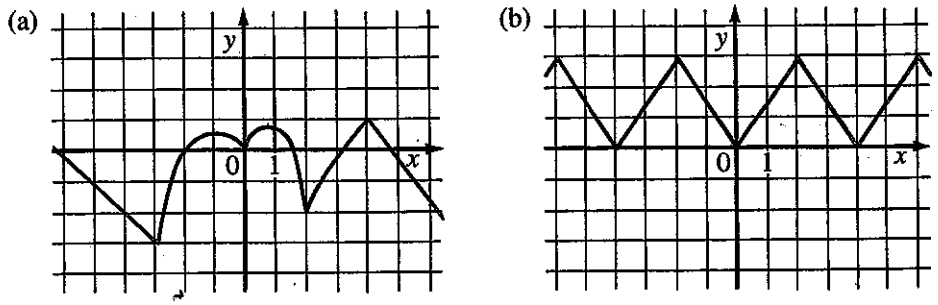
Calculus 12
5-3 Questions

1. The graph of f is given. Match it with the graph of its derivative.



2. At what values of x are the functions are not differentiable?



3. Find $f'(a)$ for each of the following functions.

a) $f(x) = 7x - x^2$

b) $f(x) = 2x^3 + 5$

c) $f(x) = \dfrac{1+2x}{1+x}$

d) $f(x) = \sqrt{x}$

4. Find the derivative $f'(x)$ of each functions.

a) $f(x) = 3x^2 + 2x - 4$

b) $f(x) = x^2 - x^3$

c) $f(x) = x^4$

d) $f(x) = \dfrac{x}{5x-1}$

5. Find the derivative of each function. Find the domains of both the function and its derivative.

a) $f(x) = \sqrt{2x-1}$

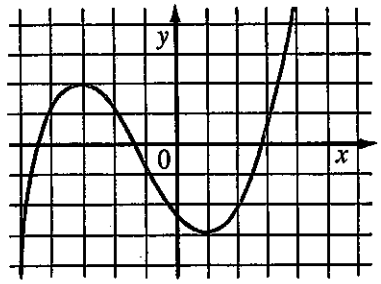
b) $g(x) = \dfrac{1}{\sqrt{x}}$

c) $F(x) = \dfrac{3-2x}{4+x}$

d) $f(t) = \dfrac{2}{t^2-1}$

6. Use the given graph of f to sketch the graph of f'.

(a)



(b)