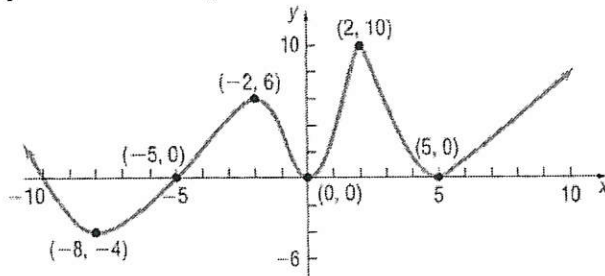


key

Success is the maximum utilization of the ability you have. – Zig Ziglar

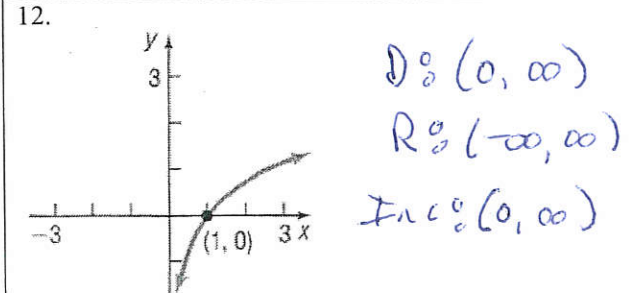
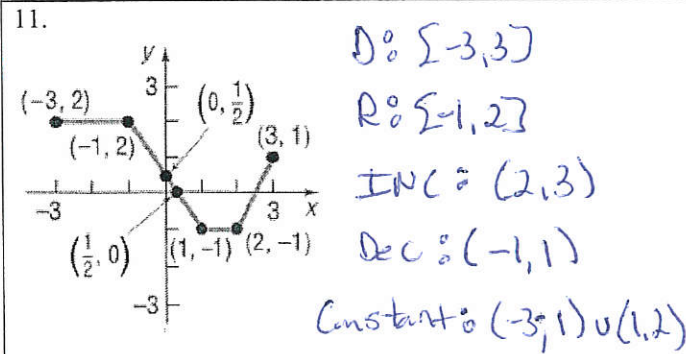
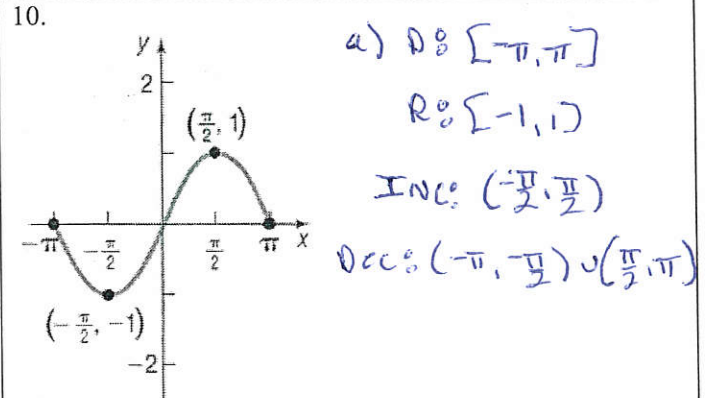
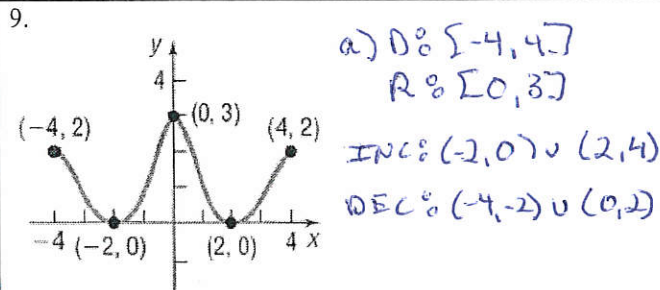
In problems 1-8, use the given graph of the function f .



1	Is f increasing on the interval $(-8, -2)$? <i>yes</i>
2	Is f increasing on the interval $(2, 10)$? <i>NO (Graph is increasing and decreasing)</i>
3	List the interval(s) on which f is increasing. Justify your answer. <i>$(-8, -2) \cup (0, 2) \cup (5, \infty)$</i>
4	List the interval(s) on which f is decreasing. Justify your answer. <i>$(-\infty, -8) \cup (-2, 0) \cup (2, 5)$</i>
5	List the value(s) of x at which f has a local maximum. Justify your answer. <i>$(-2, 6)$ $(2, 10)$</i>
6	List the value(s) of x at which f has a local minimum. Justify your answer. <i>$(-8, -4)$ $(0, 0)$ $(5, 0)$</i>
7	Find the x -intercepts. <i>$(-10, 0)$ $(-5, 0)$ $(0, 0)$ $(5, 0)$</i>
8	Find the y -intercepts. <i>$(0, 0)$</i>

For problems 9-12, the graph of a function is given. Use the graph to find:

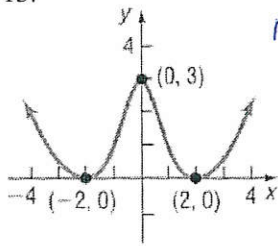
- Its domain and range
- The x - and y - intercepts
- The intervals of increase. Justify.
- The intervals of decrease. Justify.
- The intervals of constant. Justify.



In problems 13-16, the graph of a function f is given. Use the graph to find:

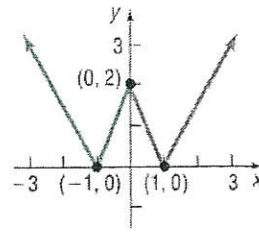
- The numbers, if any, at which f has a local maximum. What are those local maxima?
- The numbers, if any, at which f has a local minimum. What are those local minima?

13.



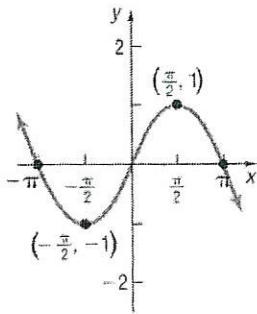
Max: $(0, 3)$
Min: $(-2, 0), (2, 0)$

14.



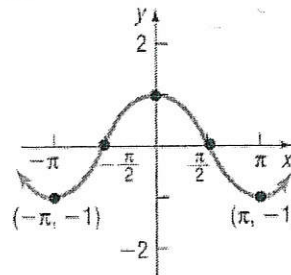
Max: $(0, 2)$
Min: $(-1, 0), (1, 0)$

15.



Max: $(\frac{\pi}{2}, 1)$
Min: $(-\frac{\pi}{2}, -1)$

16.



Max: $(0, 1)$
Min: $(-\pi, -1)$
 $(\pi, -1)$

Discontinuity Power Point

① $D: x \neq -2$ $R: \dots$

$x = -2$ $f(-2) = \frac{1}{0}$ V.A

② $D: x \neq 0$ $R: y \neq -3$ or $(-\infty, -3) \cup (-3, \infty)$

$x = 0$ $f(0) = \frac{0}{0}$

Hole