

Written assignments  
to hand in.

Section 2.2

38, 52

Due Tuesday 10/17

Section 2.3

8, 44

Due Wednesday 10/18

Section 2.4

18, 38

Due Friday 10/20

Discussion Problems  
From the department syllabus  
These are not to hand in.

Sections 2.3, 2.4

WebAssign

Sections 2.1+2.2

Due Tuesday 10/17, 9pm.

Sections 2.3+2.4

Due Friday 10/20, 9pm

Exam 2

Covering 1.6-1.8, 2.1-2.8

7. Values of a Function The graph of a function  $h$  is given.

a. Find  $h(-2)$ ,  $h(0)$ ,  $h(2)$ , and  $h(3)$ .  
Answer  $h(-2)=1$ ,  $h(0)=-1$ ,  $h(2)=3$ ,  $h(3)=4$

b. Find the domain and range of  $h$ .  
Answer Domain =  $[-3, 4]$  Range =  $[-1, 4]$

c. Find the values of  $x$  for which  $h(x) = 3$ .  
Answer  $h(x)=3$  at  $x = -3, 2, 4$

d. Find the values of  $x$  for which  $h(x) \leq 3$ .  
Answer  $(-3, 2)$

e. Find the net change in  $h$  between  $x = -3$  and  $x = 3$ .  
Answer  $h(3)=3$ ,  $h(-3)=4$ . Net change =  $h(3) - h(-3) = 3 - 4 = -1$

8. Values of a Function The graph of a function  $g$  is given.

a. Find  $g(-4)$ ,  $g(-2)$ ,  $g(0)$ ,  $g(2)$ , and  $g(4)$ .

b. Find the domain and range of  $g$ .

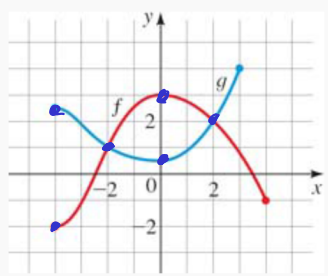
The screenshot also shows a graph of a function  $h$  on a coordinate plane. The x-axis ranges from -3 to 4, and the y-axis ranges from -1 to 4. The function  $h$  is a continuous curve passing through points  $(-3, 1)$ ,  $(-2, 1)$ ,  $(-1, -1)$ ,  $(0, -1)$ ,  $(1, 0)$ ,  $(2, 3)$ ,  $(3, 4)$ , and  $(4, 4)$ . A horizontal line  $y=3$  is drawn, and the points where the curve intersects this line are marked at  $x = -3, 2, 4$ .

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2: Functions

e. Find the values of  $x$  for which  $f(x) > g(x)$ .



Answer ▾

10. Solving Equations and Inequalities Graphically Graphs of

Ⓐ Which is larger  $f(0)$  or  $g(0)$ ?

$$f(0) > g(0)$$

Ⓑ Which is larger  $f(-3)$  or  $g(-3)$ ?

$$g(-3) > f(-3)$$

Ⓒ For which  $x$ -values is  $f(x) = g(x)$ ?

$$x = 2, -2$$

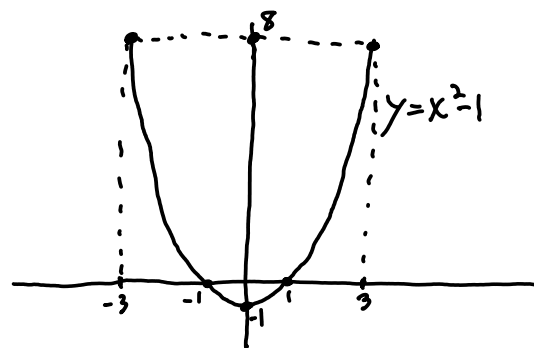
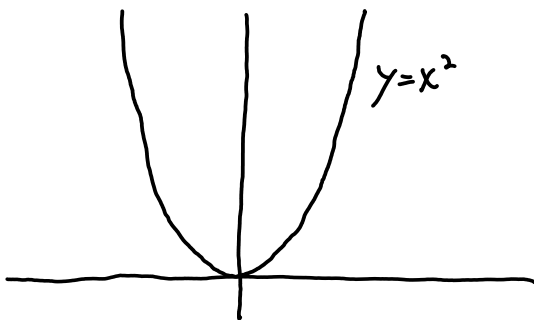
Ⓓ Where is  $f(x) \leq g(x)$ ?

$$[-4, -2] \cup [2, 3]$$

Ⓔ Where is  $g(x) < f(x)$ ?

$$(-2, 2)$$

Ⓘ  $f(x) = x^2 - 1$  for  $-3 \leq x \leq 3$



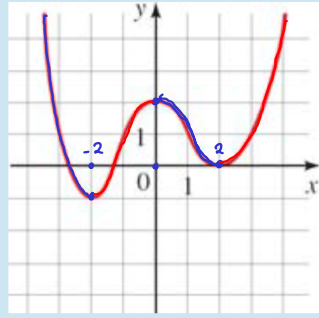
$$\text{Domain} = [-3, 3]$$

$$\text{Range} = [-1, 8]$$

2: Functions

b. The intervals on which the function is increasing and on which the function is decreasing.

43.



local minimums  
at  $x = -2, 2$

local maximum  
at  $x = 0$

decreasing  $(-\infty, -2) \cup (0, 2)$

increasing  $(-2, 0) \cup (2, +\infty)$

Answer ↓

