Review Test #1 – Chapters 1& 2

To prepare for the test, you may study:

Quiz #1

Handout Review Chapter 1: # 1, 2, 3, 4, 5, 8, 9, 10

Handout 2.2 Functions: # 4, 5, 6, 9, 10, 11

Handout Sections 2.3 &2.4 # 1 – 8

Handout Section 2.5: The graphs of all basic functions

Handout 2.6: All examples and exercises

Homework #1: Summary page 146 – all even

Homework #2:

Section 2.2	#17 – 22, 23, 24, 27, 30, 33, 36, 38, 45, 46, 47, 49, 50, 51, 69 – 78
Section 2.1	# 39, 40, 41, 49, 50, 54, 57, 61, 63
Section 2.3	# 9, 10, 16, 18, 23, 35, 36, 45, 50, 53, 57, 65, 66, 67, 71
Section 2.4	# 5, 11, 13, 24, 28, 30, 33, 36, 37, 41, 43, 49, 50
Section 2.5	# 17, 20, 21, 24, 27, 29, 32, 43
Section 2.6	# 19, 22, 25, 27, 30, 32, 33, 36, 42, 48
Section 2.7	#1 – 8, 9, 11, 13, 19 – 22, 23 – 26, 33, 36, 39, 40, 41, 44, 47, 48, 57, 58, 59, 60, 63, 64

More applications

1) Let $A(-7,-4)$ and $B(4,-1)$ be two points in a plane. Find the following and sketch an appropriate figure:

a) An equation of the circle with diameter AB. Show how you obtain the equation.
b) Does the equation from (a) represent y as a function of x? Explain.
c) Find the exact x-and y-intercepts (if any).
d) Find the equation of the line AB.
e) Does the equation from (d) represent y as a function of x? Explain. Find the domain and range of the relation.

2) Sketch the graph of the following piece-defined functions. Show all work.

$$f(x)=\begin{cases} x+1, & -2 \le x < 0 \\ \sqrt{x}, & 0 \le x \le 1 \\ x^3, & 1 < x < 2 \end{cases} \qquad f(x)=\begin{cases} 2, & \text{if} \quad x < -3 \\ -2x+1, & \text{if} \quad -3 \le x \le 2 \\ x-2, & \text{if} \quad 2 < x < 6 \end{cases}$$

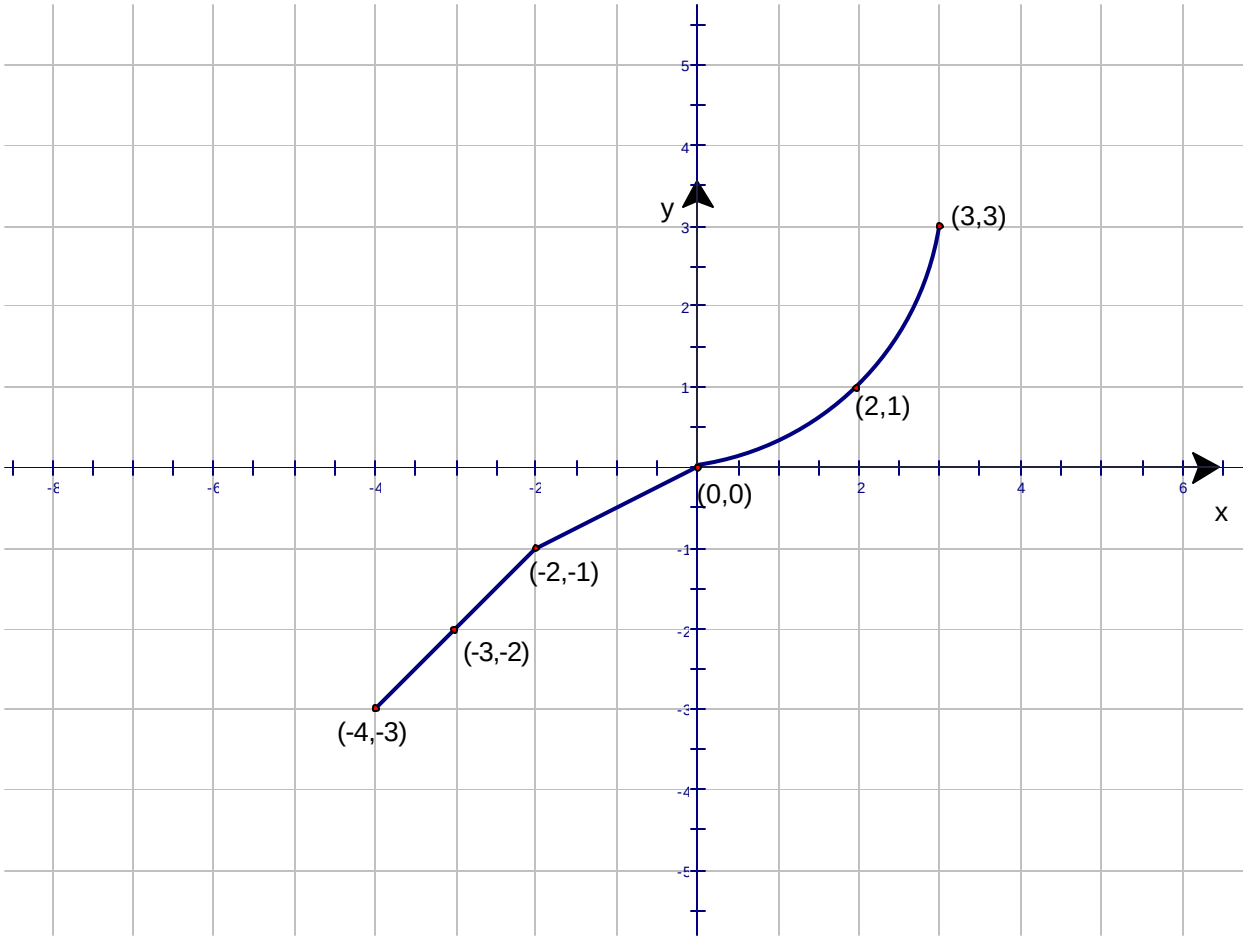
a) What is the domain and range of each function?

b) Find $f\left(\frac{1}{2}\right)$, $f\left(-\frac{1}{2}\right)$, and $f\left(\frac{3}{2}\right)$.

d) On what intervals is the function increasing ,decreasing, constant ?

e) Calculate $f\left(f(1)\right)$, $(f\circ f)(-1)$, and $(f\circ f)(0)$.

3)



Using the graph $y=f(x)$ shown, answer the following:

a) Is *y* a function of *x*? Explain.

b) Find the domain and range of *f*.

c) List the intercepts (as ordered pairs).

d) Find $f(-2)$.

e) For what values of *x* does $f(x)=-3$?

f) Solve $f(x)>0$.

g) Find $(f\circ f)(-3)$

h) Graph $y=f(x-2)$

i) Graph $y=f(x)-2$

j) Graph $y=f(-x)$

k) If *f* even, odd , or neither?