Precalculus – Chapter 1 Homework Packet   Name: _____KEY_____

The majority of these questions were ones you encountered last year in Algebra 2. This packet is an overview of concepts learned in Algebra 2 that will be helpful for PreCalculus. You should try every question in this packet as well as do the suggested problems in the book listed on the assignment sheet in preparation for your chapter 1 test on September 17th.

1) What Quadrant is (x,y) located in if: $y>0$ & $x<-4$

$$\begin{array}{c|c} II & I \\ \hline III & IV \end{array}$$

Ⅱ

For numbers 2 – 4 use: If $f(-2)=5$ & $f(1)=-10$
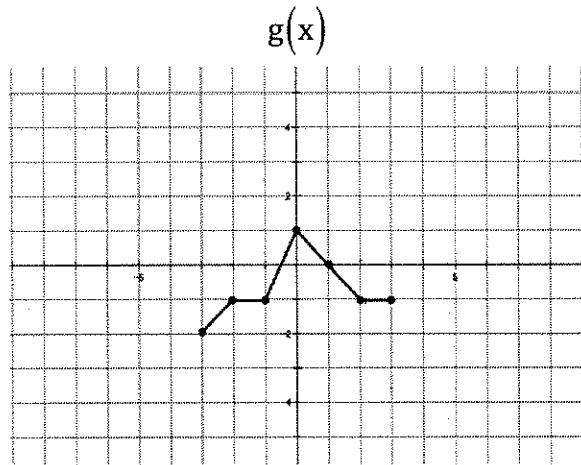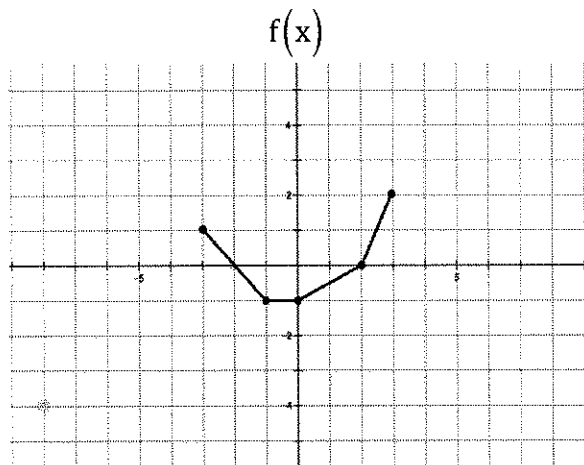
2) What is the linear function that contains the two values?

$(-2,5)$ $m = \frac{5--10}{-2-1} = \frac{15}{-3} = -5$ $5 = -5(-2)+b$ $y=-5x-5$

$(1,-10)$ $y=-5x+b$ $-5=b$

3) What is the distance between the two points?

$\sqrt{(-2-1)^2+(5--10)^2} = \sqrt{9+225} = \sqrt{234} = 3\sqrt{26}$

For numbers 4 – 7, use the graph of $f(x)$ and $g(x)$ below:

$f(x)$

$g(x)$

4) Calculate $(f\circ g)(2)$

$f(g(2)) = f(-1) = -1$

5) Calculate $(f+g)(-2)$

$f(-2)+g(-2)$

$= 0 + -1 = -1$

6) Calculate $(f\circ f)(3)$

$f(f(3)) = f(2)$

$= 0$

7) Calculate $(f/g)(2)$

$\frac{f(2)}{g(2)} = \frac{0}{-1} = 0$

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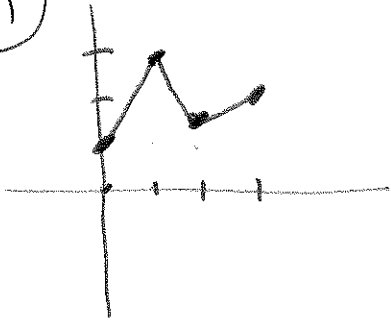
p.61-63 #13, 15, 19, 23

(13) Yes, it is a function
   (passes Vertical Line test)

(15) $f(x) = 2x^2 - 7x - 30$

$0 = (2x+5)(x-6)$

$x = -\frac{5}{2}, \ x = 6$

(19) $f(x) = \frac{1}{2}x^3 - x$

$2\left[0 = x\left(\frac{1}{2}x^2 - 1\right)\right]2$

$0 = x(x^2 - 2)$

$0 = x(x+\sqrt{2})(x-\sqrt{2})$

$x = 0, \ x = -\sqrt{2}, \ x = \sqrt{2}$

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

$0 = \sqrt{2x}$

$(1 = \sqrt{2x})^2$
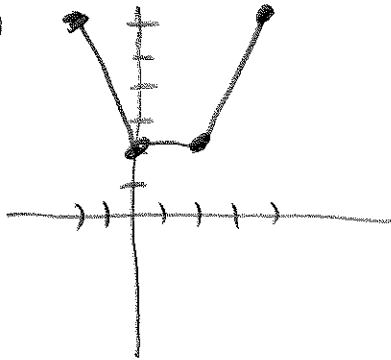
$1 = 2x$

$\frac{1}{2} = x$

p89 # 1, 3, 43, 45

①

$f(0) + g(0) = 2 + -1 = 1$

$f(1) + g(1) = 3 + 0 = 3$

$f(2) + g(2) = 1 + \frac{1}{2} = \frac{3}{2}$

$f(3) + g(3) = 2 + 0 = 2$

③

$f(-2) + g(-2) = 2 + 4 = 6$

$f(0) + g(0) = 0 + 2 = 2$

$f(2) + g(2) = 2 + 0 = 2$

$f(4) + g(4) = 4 + 2 = 6$

43 a) $f(3) + g(3) = 2 + 1 = 3$

b) $f(2) / g(2) = 0/2 = 0$

45 a) $(f \circ g)(2) = f(g(2)) = f(2) = 0$

b) $(g \circ f)(2) = g(f(2)) = g(0) = 4$