PreCalculus – Unit 1 – 1.6 – 1.8 – Review Worksheet
Name: _____ Date: _____ Period: _____

Section: 1.6

<u>Describe all the transformations of each function.</u>

1) $f(x) = -\sqrt{-x+2} + 9$

2) $f(x) = \sqrt[3]{2x+3} - 4$

3) $f(x) = -(2x+5)^2 + 11$

4) $f(x) = \frac{-3}{x-4} + 5$

5) Write the function that translates the given function $f(x) = -\sqrt{x+3} + 17$, 2 units right and 7 units up.

Section: 1.7

<u>Find the domain of each given function.</u>

6) $f(x) = \sqrt{-x+3}$

7) $f(x) = \frac{2}{x^2-7x+6}$

8) $g(x) = \frac{5}{\frac{4}{x}+1}$

<u>Find the following given that</u>

$f(x) = x - 4$
$g(x) = x^2 - 16$
$h(x) = \sqrt{x+2}$

$j(x) = \frac{4}{x}$
$k(x) = \sin(x)$

9) $\frac{f(x)}{g(x)}$

10) $j(h(x))$

11) $f(g(h(1)))$

12) $g(f(x))$

13) $j(h(k(\pi)))$

14) $f(x) \cdot g(x)$

<u>For each function below $r(x)$, write as a compostion of functions.</u>

15) $r(x) = ln(3x + 14)$
16) $r(x) = \sqrt[3]{x + 14} + 13$
17) $r(x) = \frac{-3}{\log(3x+5)}$
18) $r(x) = \sqrt{\ln(x - 9) + 7}$

Section: 1.8

<u>Find the inverse and state where the inverse is a function.</u>

19) $f(x) = 5x - 7$

20) $h(x) = (x - 5)^2 + 4$

21) $f(x) = \ln(x + 5) + 7$

22) $f(x) = \sqrt[3]{2x + 3} - 4$

PreCalculus – Unit 1 – 1.10 – Review Worksheet
Name: _____ Date: _____ Period: _____

1) You are choosing between two plans at a discount warehouse. Plan A offers an annual membership of $100 and you pay 80% of the manufacturer's recommended list price. Plan B offers an annual membership fee of $40 and you pay 90% of the recommend list price.

a) Express the total yearly amount paid to the warehouse under plan A, $f(x)$, as a function of dollars of merchandise, x, purchased during the year.

b) Do the same for Plan B, and call it $g(x)$.

c) How many dollars of merchandise would you have to purchase in a year to pay the same amount under both plans?

2) An open box is made by cutting identical squares from the corners of a 16-inch by 24-inch piece of cardboard, and then turning up the sides. Express the volume of the box, *V*, as a function of the length of the side of the square cut from each corner, *x*.

3) You inherit $10,000.00 with the stipulation that for the first year the money must be placed into two investments expected to earn 8% and 12% annual interest. Express the expected interest from both investments, *I*, as a function of the amount of money invested at 8%, *x*.

4) A box with a square base and a square top, with side x, and height y has a volume of 8 cubic feet. Express the surface area of a box, *SA*, as a function of the length of the side of its square base, *x*.

5) You have 400 feet of fencing to enclose a rectangular lot and divide it in two by another fence that is parallel to one side of the lot. Express the area of the rectangular lot, *A*, as a function of the length of the fence that divides the rectangular lot, *x*.