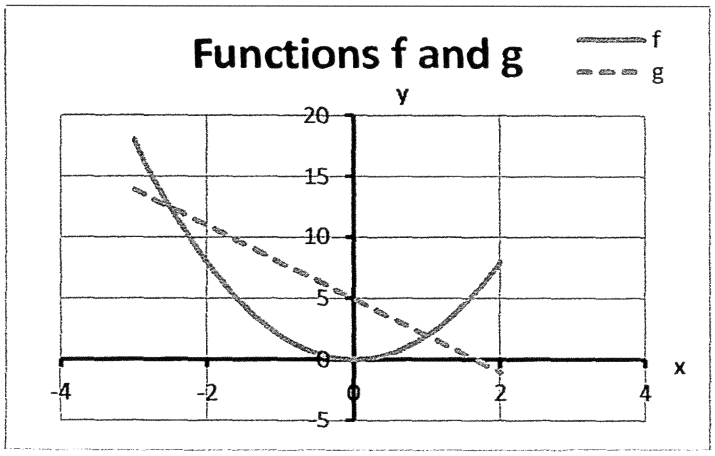
Bridges
Math 122A

Name_____ Section____

Problems from [1.1-1.3]

GIVE COMPLETE SOLUTIONS TO THESE PROBLEMS AND SHOW ALL WORK ON THESE PAGES. ANSWERS MUST BE IN EXACT AND IN SIMPLEST FORM UNLESS OTHERWISE STATED. PLEASE CIRCLE FINAL ANSWER. POINTS ARE AWARDED BASED ON YOUR USE OF ALGEBRA.

1.



You are given the following information:

$y = f(x) = 2x^2$.

$y = g(x)$ is a linear function whose y-intercept is 5.

The intersection of f and g in the first quadrant is the point (1, 2).

Find the coordinates of the point of intersection of f and g in the second quadrant.

NO POINTS WILL BE GIVEN FOR A SOLUTION BASED ON GRAPHING ONLY OR ON *GUESS-AND-CHECK*.

2. In the early 1960's, radioactive strontium-90 was released during atmospheric testing of nuclear weapons and got into the bones of people alive at the time. If the half-life of strontium 90 is 29 years, what percent of this substance absorbed in 1960 will remain in people's bones in 2010?
GIVE ANSWER TO THE NEAREST HUNDREDTH OF A PERCENT.

3. Let $p(\beta) = \frac{1}{\beta}$ and let $M(\beta) = \frac{3\beta}{\beta+1}$.

(a) Find $p(M(0))$.

(b) Find $M(p(\beta))$. **BE SURE YOUR ANSWER IS IN SIMPLEST FORM.**

(c) Give the domain of $M(p(\beta))$.

4. Find the equation of the line perpendicular to $3x + 4y = 10$ and containing the point (-2, 7) Give exact answer in $y = mx + b$ form. Show all work.

5. Find the equation of the exponential function containing the points (2, 0.4) and (-2, 0.1). Show all work. A guess-and-check method using your calculator will receive no credit. Give answer in simplest and exact form.

6. Use the chart of f(x) below to find a formula for each of the new functions in terms of f(x).

x	-8	-4	0	4	8
f(x)	-3	2	7	1	5

(a)

x	-10	-6	-2	2	6
g(x)	-3	2	7	1	5

g(x) = _____

(b)

x	-8	-4	0	4	8
h(x)	-9	6	21	3	15

h(x) = _____