

**Math 80**  
**Midterm 1**  
**April 27, 2006**

Name: \_\_\_\_\_

1. Your exam contains 4 questions and 6 pages; Please make sure you have a complete exam.
2. The entire exam is worth 75 points. Point values for problems vary and these are clearly indicated. You have 65 minutes for this exam.
3. Make sure to ALWAYS SHOW YOUR WORK; you will not receive any partial credit unless all work is clearly shown. If in doubt, ask for clarification.
4. If you need extra space, use the back page of the exam and clearly indicate this.
5. You are allowed one  $8.5 \times 11$  sheet of handwritten notes (both sides). Graphing and scientific calculators are allowed.
6. Leave answers in exact form (as simplified as possible) or round to 4 decimal places.

Problem	Total Points	Score
1	15	
2	30	
3	15	
4	15	
Total	75	

1. (15 pts.) Solve the following.

(a) (5 pts.) Solve  $r + 9 + 8r = 4(6 + r)$ .

(b) (5 pts.) Solve  $A = \frac{1}{2}(b + B)h$  for the variable  $b$ .

(c) (5 pts.) What is the slope of the line between the points  $(-1,4)$  and  $(8,-2)$ ?

2. (30 pts.) Consider the linear equation  $-6x+3y=15$ .

(a) (3 pts.) Is  $(-1,2)$  a solution to the equation?

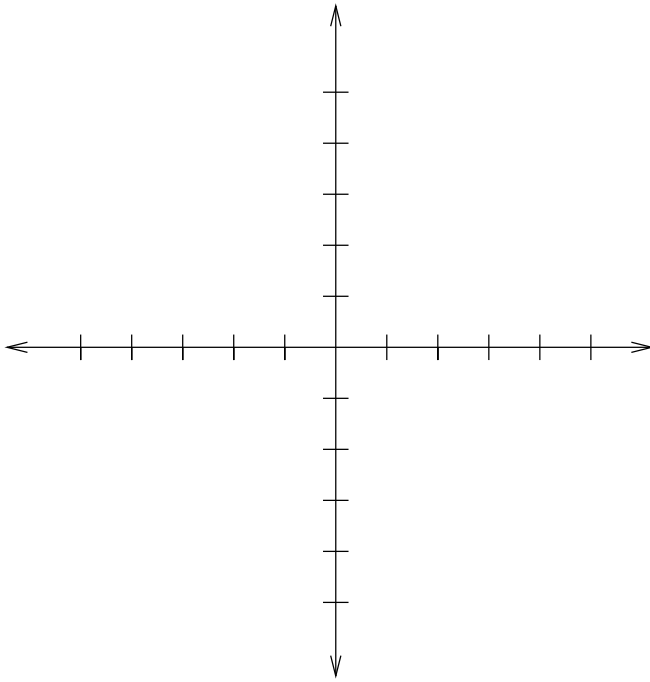
(b) (5 pts.) Solve the equation for the variable  $y$ .

(c) (3 pts.) What is the slope of the line described by this equation?

(d) (8 pts.) Complete the following table of ordered pairs for the equation.

$x$	$y$
-4	
	-1
-1	
0	

- (e) (5 pts.) Given the information in the table in part f, graph the line for the equation  $-6x+3y=15$ .



- (f) (6 pts.) What is the slope of a line parallel to  $-6x+3y=15$ ?

What is the slope of a line perpendicular to the  $-6x+3y=15$ ?

3. (15 pts.) Susie is driving 1540 miles from Colorado to visit her grandpa in Washington. Her grandpa decides to drive along the same route to meet her somewhere in between WA and CO. Susie drive a constant 70 mph\* and they meet after 14 hours. Assuming her grandpa drives at a constant speed\*, how fast is he driving?

\*For the sake of nice math, we assume that Susie and her grandpa never need to stop for food, rest, or gas.

4. (15 pts.) Back in WA, Susie's grandpa sells handmade pink-frosted and chocolate-covered donuts\*. He sells the pink-frosted donuts for \$1.25 each and the chocolate-covered ones for \$1.50 each. On his best selling day, his total revenue was \$525.00. His sales of pink-frosted donuts were 80% of his sales of chocolate-covered donuts. How many of each type of donut did he sell on that day?

\*Mmmmmmmm donuts.