

# Exam #1

Math 111-C

Friday, September 17, 1999

Give numerical answers to three digits after the decimal point.

1. Solve by hand:  $x^2 + 6x \leq 7$ .
2. Solve by hand:  $|2x - 3| > 4$ .
3. Find the midpoint of  $(-3, 7)$  and  $(4, 5)$ .
4. Construct a line through the point  $(1, -3)$  that is perpendicular to the line  $y = 10x - 7$ .
5. Solve by hand:
$$\frac{x}{2} - \frac{8}{x} = 3$$
6. Solve by graphing:  $x^5 - x^3 = x + 5$ .
7. Solve by hand:
$$\frac{2}{x+1} \leq 0$$
8. Explain when to use parentheses and when to use square brackets with interval notation.
9. Solve:  $-8 \leq -3x + 7 < 5$ .
10. Find the distance between  $(-5, 2)$  and  $(-1, -3)$ .