

**MATH 120
Exam #2
Spring '08**

Other than your name, **write nothing on this paper.** Show all work and answers on the blank paper provided.

Name:

Prob. Num.	Point Worth	Points Given
1	10	
2	10	
3	10	
4	10	
5	10	
6	10	
7a	10	
7b	10	
7c	15	
8	15	
9	15	
10a	15	
10b	10	
10c	10	
11a	10	
11b	10	
12a	10	
12b	10	
12c	10	
12d	10	
13	10	
Total	210	
Curve		
Grade		

1) Is $-6(2x + 1) - 3(x - 4) = -15x + 1$ an identity, a contradiction, or conditional? State the solution set!

2) Solve $A = \frac{24f}{B(p + 1)}$ for f .

3) Luke Skywalker can ride his speeder to Toshi Station in 40 minutes. The trip home, which is all uphill, takes him 60 min. If his rate is 16 mph faster on his trip there than his trip home, how far does he live from Toshi Station?

4) A realtor borrowed \$90,000 to develop some property. He was able to borrow part of the money at 11.5% interest and the rest at 12%. The annual interest on the two loans amounts to \$10,525. How much was borrowed at each rate?

5) An ecology center wants to set up a rutabaga garden using 300 m of fencing to enclose an area of 5000 m². Find the garden's dimensions.

6) A kite is flying on 100 ft of string. Its vertical distance from the ground is 20 ft more than its horizontal distance from the person flying it. Assuming the string is held at ground level, find the kite's vertical distance from the ground.

7) Write each in the standard form $a + bi$.

a. $(3 + 17i) - (4 - 5i)$

b. $(3i + 4)(i - 5)$

c. i^{79}

8) Solve $3x^2 + 1 = 4x$ by factoring.

9) Solve $3x^2 = 5 - 2x$ by completing the square.

10) Solve each equation.

a. $\frac{-x}{x + 1} - \frac{1}{x - 1} = \frac{-2}{x^2 - 1}$

b. $\sqrt{2x} - \sqrt{3x + 12} = -2$

c. $(2x - 1)^{2/3} = x^{1/3}$

11) Solve each inequality. Write the solution set in interval notation and graph it.

a. $5 - 3x < 14$

b. $-4 < 8x - 3 \leq 29$

12) Solve each inequality. Write the solution set in interval notation, but do not graph it.

a. $3x^2 + x \leq 4$

b. $16x - x^3 > 0$

c. $\frac{3}{x - 2} \leq 1$

d. $|2x - 9| + 1 < 6$

13) Solve $|11 - 4x| - 10 = -2$.