Math 0970/0990 Spring 2009 Practice Final Exam (Part I)

DO NOT WRITE ON THIS EXAM!!!

Read each question carefully. Place your answer on the answer sheet provided. If you make an 85% or higher on this exam you will have tested out of the final exam. There is no partial credit on this exam. The problems will be either right or wrong for fast grading purposes.

1. Round 45,067,213.12 to the nearest ten-thousands.

2. Write the number 3,427.25 in words.

3. Simplify each expression completely:
   a) $5+2\left[6\left(7-3\right)\right]$ b) $48\div 3\left(52-5^2\cdot 2\right)-4$

4. Molly's scores on her history test for this semester were: 93, 74, 83, 85, 100, 76, and 84. Find the average score.

5. Compare the following numbers. Insert $>, <, or =$ between the pair of numbers.
   $$(-4)\_\_\_\_\_-|-3|$$

6. Write 315 as a product of prime factors.

7. Find the greatest common factor (GCF) of 72 and 90.

8. Find the least common multiple (LCM) of 24 and 42.

9. Simplify the following expressions: (without a calculator)
   a) $\sqrt{64}$ b) $\sqrt{180}$

10. Simplify the following expressions:
    a) $-56\div 7$ b) $-27\div 0$ c) $0\div 11$

11. Evaluate $3x-4y$ when $x=3$ *and* $y=-\frac{1}{4}$.

12. Reduce $\frac{81a^4bc^7}{90ab^5c^3}$ to lowest terms.

13. Simplify: $\frac{5}{8}\div\frac{15}{16}$

14. Simplify: $\frac{11}{20}+\frac{3}{5}+\frac{9}{10}$

15. Simplify: $\dfrac{\frac{2}{3}+\frac{1}{6}}{\frac{3}{4}+\frac{1}{3}}$

16. Simplify: $\left(\frac{1}{4}\right)^2+3\frac{1}{2}\cdot\frac{3}{4}$

17. Convert 30 inches to feet.

18. Convert 2 days into minutes.

19. 38% of 70 is what number?

20. Find the ratio of the following:
    a. 12 cups to 28 cups b. 3 quarters to 5 dimes

21. Complete the following table:

Fraction	Decimal	Percent
$\frac{3}{8}$		
	0.35	
		75%

22. A baseball player makes 25 hits in 18 games. At this rate how many hits would he make in 54 games?

23. There are 35 students in a class. On Monday, 28 were present. What percent was present?

24. Simplify by combining like terms:
    $4x^3+3x^2+2x+5x^2+9+x-2$

25. Simplify by combining like terms:
    $\frac{1}{2}a^2+\frac{1}{4}a-\frac{2}{3}a^2+\frac{5}{6}a^2$

26. Multiply: $-2x^2\left(5x^2-3x+7\right)$

Math 0970/0990 Spring 2009 Practice Final Exam (Part II)

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Read each question carefully. Place your answer on the answer sheet provided. You made it through part I so keep it up you are half way done!

In 27-29, solve for the given variable.

27. $11a+6=7a+14$

28. $\frac{x+2}{4}-\frac{2x+3}{3}=7$

29. $5\left[y-4(3-y)\right]=15$

30. Find three consecutive integers whose sum is 174.

31. The length of a rectangle is 6 inches more than the width. The perimeter is 48 inches. Find the dimensions.

32. Two cars leave an amusement park at the same time and travel in opposite directions to go home. One car encounters heavy traffic and can travel at half the rate of the other car. After one hour the cars are 90 miles apart. How fast is each traveling?

33. Simplify: $\frac{\left(2r^{-2}s\right)^4}{-10r^4s^5}$

34. Simplify: $-(25x)^0$

35. Simplify: $3^{-2}+9^{-2}$

36. Simplify: $\frac{\left(m^{-5}n^2\right)^3\left(4m^2\right)^{-1}}{2m^{-2}n^{-4}\left(m^{-1}\right)^2}$

In 37-41, perform the indicated operation. Express answers in lowest terms.

37. $(a-2b)(3a-b)$

38. $(x+3)^2$

39. $(x+1)(x^2+7x+11)$

40. $\dfrac{5ab^2 + 15a^2b - 35ab}{5a}$

41. $x + 2\overline{)x^2 - 4x - 14}$

In 42-46, factor completely.

42. $16a^2 + 8a$

43. $16a^2 - 1$

44. $3m^2 + 11mn + 6n^2$

45. $x^2 + 36$

46. $x^2 - cx - 2ax + 2ac$

47. The point (–2, –5) is in what Quadrant?

48. Write the equation of a line in slope-intercept form that passes through the points (3, –5) and (3, 7).

49. Write the equation of a line in slope-intercept form that passes through the point (2, –3) with a slope of $-\frac{1}{2}$.

50. Graph the solution set for the following: $3x + y = 6$