

Math 50
Exam 1
Chapters 1 – 3

There are two parts to this exam. The first part consists of 55 problems, including 18 true-false, and **calculators are not allowed**. The second part consists of 9 problems and calculators are allowed. When you are finished with the first part of the exam, turn it in and get the second part of the exam. Do not take out your calculators until you turn in part 1 of the exam.

The instruction “Evaluate” means to do the indicated operations (add, subtract, multiply, divide, etc) and write the expression as a single number in simplest form. Units are important. That is, 25 is not a full credit answer when the answer is correctly stated as 25 *degrees* or 25 *feet*.

When you are finished with the exam, turn in the exam, answer sheet and scratch paper.

1. I have read and understand the instructions to this exam.
2. I have read and understand the syllabus.

Signature: _____

Print Name: _____

Math 50 Exam 1, Chapters 1-3

Print Name: _____

Part 1 (No Calculator)

A calculator is not allowed on this portion of the exam. When you are finished with this part of the exam, turn it in and get the second part of the exam. The instruction “Evaluate” means to do the indicated operations (add, subtract, multiply, divide, etc) and write the expression as a single number in simplest form. Units are important. That is, 25 is not a full credit answer when the answer is correctly stated as *25 degrees* or *25 feet*.

1. Place the correct symbol ($<$, $>$, or $=$) between the two numbers. 16 12
2. Use the roster notation to write the set of negative integers greater than 5.
3. Find the opposite of -40 .
4. Evaluate $-|-7|$
5. Evaluate: $16 + (-22) + 5 + (-7)$
6. Evaluate: $-17 - 33 - (-62) - 24$
7. Evaluate $-6(2)(-3)$
8. Evaluate $-7(0)(-5)$
9. Evaluate $192 \div (-12)$
10. Evaluate $16 \div 0$
11. Find the temperature after a drop of 9 degrees from -2 degrees.
12. State the property that justifies the statement: $(-3 + 7) + 5 = -3 + (7 + 5)$
13. Evaluate $0 \div (-8)$
14. Write 0.03% as a decimal number.
15. Evaluate (write as a fraction): $\frac{1}{2} - \left(-\frac{5}{8}\right) - \left(-\frac{5}{16}\right)$
16. Evaluate $-\frac{3}{4}\left(\frac{8}{9}\right)\left(-\frac{7}{16}\right)$

17. Evaluate $-\frac{8}{21} \div \left(\frac{-4}{7}\right)$
18. Evaluate $-4^2 \left(-\frac{1}{3}\right)^2$
19. Evaluate (write as a fraction) $\frac{2}{5} - \frac{3}{4} \div \left(\frac{3}{8}\right)^2$
20. Evaluate $-a^2$ when $a = -3$.
21. Evaluate $3(a - c) - 2ab$ when $a = 2$, $b = 3$, and $c = -4$.
22. Simplify $8y - 7x + 11x - 17y$
23. Simplify $24x \left(-\frac{3}{16}\right)$
24. Simplify $2(-2x - 7) - (-3 + 5x)$
25. Simplify $-5x + 4[x - (2 - 7x)] + (-9x)$
26. Solve $\frac{3}{5}x = -15$
27. Solve $x - 4 = -9$
28. Solve $13 - 9x = -14$
29. Solve $5x - 8 = 12x + 13$
30. Solve $8x - 3(4x - 5) = -2x - 11$
31. Solve $-\frac{3}{4}x \leq \frac{2}{3}$
32. Solve $3x - 4 > 5x + 2$
33. Translate into a variable expression: "the difference between the square of x and twice the total of 7 and x ."

34. Translate into a variable expression: “the quotient of thirty seven and the difference between twice a number and eight.”
35. The dividend of a stock is one-eleventh of the price of a stock. Express the dividend paid on a stock in terms of the price of the stock.
36. A coin bank contains 22 coins in dimes and quarters. Use one variable to write expressions for the number of dimes and the number of quarters in the bank.

37-55. Circle True if the statement is always true, otherwise circle False.

37. True False The Commutative Property of Addition states $a + b = b + a$.
38. True False In the expression $8y^3 - 4y$, the terms are $8y^3$ and $4y$.
39. True False If the sum of two numbers is 12 and one of the numbers is x , then the other number can be expressed as $x - 12$.
40. True False -5^2 is read “negative five squared.”
41. True False Terms are addends.
42. True False $2^5 = 5 \cdot 5$
43. True False Like Terms of an expression are terms that have identical variable parts.
44. True False Constant terms are always like terms.
45. True False If x is an integer, then $|x| > -2$.
46. True False If x is an integer, then $|x| = -x$.
47. True False If x is a negative integer, then $|x| = -x$.
48. True False If a and b are integers and $a < b$, then $|a| < |b|$.
49. True False To find the opposite of any integer, multiply the integer by -1 .
50. True False To find the opposite of any integer, divide the integer by -1 .

51. True False If a and b are integers and $b = 0$ then $\frac{a}{b} = 0$.
52. True False The number $\frac{\pi}{3}$ is an example of a rational number.
53. True False -12 is an example of a number that is both a rational number and an integer.
54. True False $-4^2 = 16$
55. True False The product of a number and its multiplicative inverse is one.

Answer Sheet for Exam 1
Math 50, Spring 2006

Print Name: _____

- | | | |
|-----------|----------------|----------------|
| 1. _____ | 21. _____ | 41. TRUE FALSE |
| 2. _____ | 22. _____ | 42. TRUE FALSE |
| 3. _____ | 23. _____ | 43. TRUE FALSE |
| 4. _____ | 24. _____ | 44. TRUE FALSE |
| 5. _____ | 25. _____ | 45. TRUE FALSE |
| 6. _____ | 26. _____ | 46. TRUE FALSE |
| 7. _____ | 27. _____ | 47. TRUE FALSE |
| 8. _____ | 28. _____ | 48. TRUE FALSE |
| 9. _____ | 29. _____ | 49. TRUE FALSE |
| 10. _____ | 30. _____ | 50. TRUE FALSE |
| 11. _____ | 31. _____ | 51. TRUE FALSE |
| 12. _____ | 32. _____ | 52. TRUE FALSE |
| 13. _____ | 33. _____ | 53. TRUE FALSE |
| 14. _____ | 34. _____ | 54. TRUE FALSE |
| 15. _____ | 35. _____ | 55. TRUE FALSE |
| 16. _____ | 36. _____ | |
| 17. _____ | 37. TRUE FALSE | |
| 18. _____ | 38. TRUE FALSE | |
| 19. _____ | 39. TRUE FALSE | |
| 20. _____ | 40. TRUE FALSE | |

Part 2 – You may use a calculator.

The instruction “Evaluate” means to do the indicated operation (add, subtract, multiply, divide, etc) and write the expression as a single number in simplest form. Units are important. That is, 25 is not a full credit answer when the answer is correctly stated as 25 *degrees* or 25 *feet*. Make sure you show your work on problems 6-9.

1. Write $\frac{11}{30}$ as a decimal number. Place a bar over any repeating part.
2. Write $9\frac{1}{4}\%$ as a fraction.
3. Write $\frac{11}{18}$ as a percent. Round to the nearest tenth of a percent.
4. Evaluate $1.75 - (-4.67) + 0.24$
5. Evaluate $-39.44 \div (-3.4)$
6. Palmer’s average running speed is 3 kilometers per hour faster than his walking speed. If Palmer can run a 30 km in 2 hours, how long would it take him to walk the same course?
7. Karen invests \$1200 in a simple interest account and earns \$72 in 8 months. What is the annual simple interest rate?
8. A pharmacist has 50 g of a cream that contains 75% glycerin. How many grams of the cream are *not* glycerin?
9. A lever is 25 feet long. At a distance of 12 feet from the fulcrum, a force of 26 lb is applied. How large a force must be applied to the other end of the lever so that the system will balance?