

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

**Math 130B**

**Exam I Review (Ch 1,2,3-1, 3-2)**

**This review is NOT for a grade. It is a study guide for you. Answers are available online.**

1. Perform the indicated operations and simplify.

(a.)  $-10 + (-15) + 7 + (-3)$

(b.)  $(-10)(-2)(-7)(3)$

(c.)  $16 + 4 \times (3 - 5)^2$

(d.)  $-3(7) - (-2) + 8^2$

(e.)  $-\frac{1}{2}(-48)(\frac{1}{3}) \div 4$

2. Multiply:  $(-3x^4y^7z)(5x^9y^3z^4)$

3. Divide:  $\frac{(26x^2y^7)}{(44x^9y)}$

4. Evaluate:  $-x^3 + 4x^2y - x - 3y$  when  $x = -3, y = 2$

5. Simplify:  $-2x - (8 - 6x) - 14$

6. Simplify:  $3(5x - 6y) - 2(x + 4y)$

7. Simplify:  $10x - y - 2[3x - 6(2x - 5y)]$

8. Multiply:  $3x^5y^3z^2(3x^4z - 2xy^3z^4 + 1)$

9. Solve for x:  $-6(x + 9) - 3 = 4x - (2x + 3)$

10. Solve for x:  $\frac{1}{5}(x - 2) - \frac{2}{3}(x + 1) = (3x + 2)$

11. Solve for x:  $\frac{x-3}{3} - \frac{x+7}{4} = 1$

12. The volume of a *cone* is given by the equation

$V = \frac{1}{3}\pi r^2 h$ . Find V when  $r = 6$  in and  $h = 10$  in. Leave your answer in terms of  $\pi$ .

13. Solve for  $g$ :  $S = \frac{1}{2}gt^2$

14. Solve for x:  $3(2a - 5x) = 2(a + 3x)$

15. Construct a graph on the number line for:  $-6 < x \leq -1$

16. Solve for x **and** graph on a number line.  $8(x - 2) < 3(2x - 1)$

17. Solve for x **and** graph on number line.  $\frac{1}{6}(x - 3) - \frac{x}{3} \geq \frac{1}{2}x - 2$

18. Solve for x:  $|4x - 4| = 12$

19. Solve for x:  $|3x - 2| > 6$

20. Solve for x:  $|\frac{3x+2}{12}| < 1$

21. John has \$6 more than Fred and \$2 less than Sue.

Together they have \$29.00. How much does each have?

22. The perimeter of a rectangle is 164 feet. Find the width and length if the length is 2 more than three times the width.