

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

Date: \_\_\_\_\_

/10

Instructor: \_\_\_\_\_

Class Time: \_\_\_\_\_

## Unit 4 Module C Notes Sections 12.8, 13.1, 13.3

*View the PowerPoint, Videos, or Textbook for Module 4C.*

Vocabulary *Fill in the blanks.*

1. (Section 12.8) Translate each phrase into an inequality using  $x$  as the variable

- a.  $x$  is at least 5 \_\_\_\_\_      b.  $x$  must exceed 5 \_\_\_\_\_      c.  $x$  is at most 5 \_\_\_\_\_

2. (Section 13.1)

- a. Since  $-8 < -4$ , then  $3(-8)$  \_\_\_\_\_  $3(-4)$       b. Since  $5 \geq -2$ , then  $\frac{5}{-7}$  \_\_\_\_\_  $\frac{-2}{-7}$

3a. (Section 13.1) When graphing the solution to an inequality, sometimes we use ( or ) instead of a(n) \_\_\_\_\_ circle to show the end point is not included.

b. (Section 13.1) When graphing the solution to an inequality, sometimes we use [ or ] instead of a(n) \_\_\_\_\_ circle to show the end point is included.

4. (Section 13.3) The absolute value of a real number is the \_\_\_\_\_ from zero on the real number line.

Problems *Show ALL steps.*

1. (Section 12.8) Mary and Bob plan to spend at most \$2,000 for a reception hall for their wedding reception. If the reception hall charges a \$100 cleanup fee plus \$36 dollars per person, find the greatest number of people ( $x$ ) they can invite and still stay within budget. Hint: the cleanup fee + the cost per person times the number of people must be less than or equal to \$2,000

Answer: They should invite no more than \_\_\_\_\_ people.

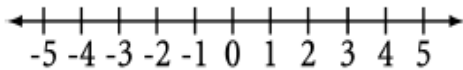
Name: \_\_\_\_\_

Instructor: \_\_\_\_\_

Date: \_\_\_\_\_

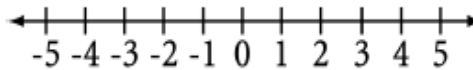
Class Time: \_\_\_\_\_

2. (Section 13.1) Write interval notation and graph.  $-3 \leq x \leq 2$



Graph: \_\_\_\_\_ Interval notation: \_\_\_\_\_

3. (Section 13.1) Write interval notation and graph.  $x \leq -2$  or  $x > 1$



Graph: \_\_\_\_\_ Interval notation: \_\_\_\_\_

4. (Sections 13.1, 13.3) Solve each inequality. Use interval notation to express your answers to the inequalities.

a.  $2x - 3 < 15$       Solution \_\_\_\_\_      b.  $2x - 3 \leq 15$       Solution \_\_\_\_\_      c.  $2x - 3 \geq 15$       Solution \_\_\_\_\_

5a. (Section 13.3) Solve  $|y| = 0$       |      5b. Solve  $2|x| + 25 = 23$

6. (Section 13.3) Solve  $\left| \frac{x}{2} - 1 \right| - 1 = 11$