**OBJECTIVES**

* Solve linear inequalities.
* Solve a system of linear inequalities.

**Monday, 2,3.25**

**Quiz (Solving Linear Inequalities) to be taken on Monday, 2.3.25.** You may use one page of notes, written front and back on an 8.5 by 11 inches sheet of paper.

|  |  |
| --- | --- |
| **NEW OBJECTIVES:**  **Simplifying Radicals.**   |  | | --- | | A square root is in **simplest form** when 1. the radicand contains no perfect square factors 2. the radicand is not a fraction 3. there are no radicals in the denominator of a fraction.  The square root of -1 is the imaginary number *i*.  **Solve quadratic equations.**  A **quadratic equation** is a polynomial equation of degree **two**, which can be written in the form *ax*2 + *bx + c*= 0, where *x* is a variable and *a, b* and*c* are constants with *a* ≠ 0.  Options for solving quadratic equations:   * If there is no *bx* term, solve directly for x. * If all 3 terms of the model are present, put all three terms on one side of the equation in descending exponential order, factor, and set each factor equal to “0.” * If all 3 terms of the model are present, put all three terms on one side of the equation in descending order, and, if the result is nonfactorable over the set of integers, use the quadratic formula.   A math formula with numbers and symbols  Description automatically generated with medium confidence  **HOMEWORK:** | |
|  |

1. Simplify √(-4).
2. Simplify √(- 48).
3. Simplify √(- 200).
4. Solve 4x2 = 16.
5. Solve 4x2 = - 16.
6. Solve 2x2 + 6 = 36.
7. Solve (x + 7) (x – 5) = 0.
8. Solve x2 + 7x + 12 = 0.
9. Solve x2 +2x – 15 = 0.
10. Solve 2x2 – 10x = -3.
11. Solve x2 – 6x + 13 **= 0.**

**Wednesday, 2.5.25**

**Discuss the previously assigned work.**

**Class Work/Homework:**

1. Solve 2x2 + x + 10 = 0.
2. The difference between a number and its square is 72. What is the number?
3. If f(x) = x2 − 6x + 9 and f(k) =1, find the value(s) of *k*.
4. If f(x) = 3x2 + 2x + 1 and f(a) = -5, find the value(s) of *a*.
5. A rock is thrown upward from the top of a 112-foot-high cliff overlooking the ocean at a speed of 96 feet per second. The rock’s height above ocean can be modeled by the equation, **H(t)=−16t2+96t+112.**

a. When does the rock reach its maximum height? \_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. What is the maximum height of the rock? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c. When does the rock hit the ocean? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Friday, 2.7. 25**

**HOMEWORK CHECK: Work assigned on Thursday!!**

**Class Work/Homework:** Quadratic Applications (Handout)