

Intermediate Algebra Quiz 5 Solution Summer 2010

NAME: _____ Score _____/10

Please **print** your name

1. **T** F The graph of an equation or inequality in one variable is a subset of the real number line.
2. **T** F A linear equation in one variable will have no solutions, one solution, or have all real numbers as solutions.
3. **T** F The process to solve a linear equation in one variable is to generate a sequence of equations each equivalent to the previous equation until a simplest equation is obtained.
4. **T** F A linear inequality in one variable x is an inequality which can be written in the form $ax + b < 0$

5. A compact compound inequality is a compound inequality which can be written in the form **$a < x < b$** .


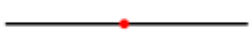

6. A compound inequality is two inequalities joined by either the conjunction **AND** or the conjunction **OR**.

Conjunction: The part of speech that serves to connect words, phrases, clauses, or sentences. The coordinating conjunctions are *and, but, for, nor, or, so, yet*.

7. Write the compound compact inequality which is equivalent to $|3x - 8| < 9$. **(I don't want you to solve it.)**

$$\mathbf{-9 < 3x - 8 < 9}$$

8. Which of the following can be the graph of an inequality of the form $|ax + b| < k$ where a, b and k are real numbers and k is positive. Circle the letter corresponding to the correct response.

- a. 
- b. 
- c. 

9. Solve the inequality $-3x + 7 > 13$. Write the solution set in interval notation. Show your work.

$$\mathbf{-3x + 7 > 13}$$

$$\mathbf{-3x > 6}$$

$$\mathbf{x < -2}$$

The solution set is $(-\infty, -2)$.

10. Solve the formula $V = \frac{1}{3}\pi r^2 h$ for h .

$$\mathbf{V = \frac{1}{3}\pi r^2 h}$$

$$\mathbf{3V = \pi r^2 h}$$

$$\mathbf{\frac{3V}{\pi r^2} = h}$$

We do not like complex fractions in algebra. Therefore you should not write $h = \frac{V}{\frac{1}{3}\pi r^2}$.