Math 009 Quiz 4

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Instructions**:

* The quiz is worth 50 points. There are 10 problems, each worth 5 points. Your score on the quiz will be converted to a percentage and posted in your assignment folder with comments.
* This quiz allows **open book** and **open notes**, and you may take as long as you like on it provided that you submit the quiz no later than the due date posted in our course schedule of the syllabus.
* You should show all of your work to receive full credit. If you do not show work, you may earn only partial or no credit.
* Please type your work in your copy of the quiz, or if you prefer, create a document containing your work. Scanned work is also acceptable. Be sure to include your name in the document. Review instructions for submitting your quiz in the Quizzes Module.

***Please remember to show ALL of your work on every problem.***

1) Tanya has a triangular garden bed in her back yard. The measure of the second angle is 50° more than the measure of the first angle. The measure of the third angle is 30° less than twice the measure of the first. Find the measures of the three angles. Start your work by defining the unknown quantities in terms of a variable. Show all work and write a complete answer, including units.

2) Jacob decided to ride his bicycle across the country during his 3-month summer vacation. The route he took from Washington, DC to Portland, Oregon, covered a total of 4420 miles. To keep his mind occupied during some of the long flat stretches of countryside, he often did algebra problems in his head. One day, for example, he determined that his distance from his starting point was exactly 50 miles more than three times the distance remaining until the finishing point. How far was Jacob from the finishing point of his journey when he made that calculation? Start your work by defining the unknown quantities in terms of a variable. Show all work and write a complete answer, including units.

3) Solve the inequality. Write the answer using **both** set-builder notation and interval notation. Graph the solution set on a number line.

 *x* – 5 > 11

4) Solve the inequality. Write the answer using both set-builder notation and interval notation. Graph the solution set on a number line.

 – 8 + 3x > 8(2 + *x*)

5) Solve the inequality. Write the answer using both set-builder notation and interval notation. Graph the solution set on a number line.

 6*x* + 14 ≥ -14*x* - 26

6) Solve the inequality. Write the answer using both set-builder notation and interval notation. Graph the solution set on a number line. Multiply both sides of the inequality by the LCD first to clear fractions.

$$-\frac{8}{9}x\leq 4$$

7) Solve the inequality. Write the answer using both set-builder notation and interval notation. Graph the solution set on a number line. Multiply both sides of the inequality by the LCD first to clear fractions.

$$\frac{1}{2}+\frac{1}{6}x> \frac{3}{8}+\frac{1}{4}x$$

8) Melissa is planning to invest a total of $17,000 in two accounts. If she invests $10,000 in a CD paying 9% annual simple interest, at what rate does the remainder of her money need to be invested so that the two investments together yield at least $1500 in yearly simple interest? (Set up and solve an inequality to answer this question). Round to the nearest cent as needed.

9) Given the equation below, find four ordered pair solutions by completing the table, showing all work in the space below. Then use the ordered pairs to graph the equation. You may use the grid below or attach your own.

 *y* = -2*x* + 1 Show work below:



|  |  |
| --- | --- |
| *x* | *y* |
| 0 |  |
| 2 |  |
|  | 0 |
|  | 6 |

10) Given the equation below, find four ordered pair solutions by completing the table, showing all work in the space below. Then use the ordered pairs to graph the equation. You may use the grid below or attach your own.

 $y=\frac{2}{3}x-1$ Show work below:



|  |  |
| --- | --- |
| *x* | *y* |
| 0 |  |
| 5 |  |
|  | 0 |
|  | -6 |