Math 115 Practice Test #1 (Chapters 1 & 2)

1. Compute and simplify:
   a. \( \left( \frac{3}{4} \right)^3 \)
   b. \(-4^2\)
   c. \(|-6|\)
   d. \(\frac{4(-3)+(-8)}{2+(-2)}\)
   e. \(68-5\cdot2^3\)
   f. \(5[3(2+5)-5]\)
   g. \(\frac{3}{4} \div \frac{6}{5}\)
   h. \(\frac{11}{8} - \frac{3}{6}\)

2. Simplify: \(-4(3x-5)-7\)

3. Simplify: \(\frac{1}{5}(10a-25b)\)

4. Evaluate the expression \(3(y-z)+2x\) when \(x=5, y=-1, z=-3\)

5. Name the property illustrated: \(a+b=b+a\)

6. Find the opposite of \(\frac{4}{3}\).

   Find the reciprocal of \(-7\).

7. Combine like terms: \(6x+5y-7x+3-y\)

8. Simplify: \(3(x+2)-(12-x)\)

9. The set \(\{\ldots, -3, -2, -1, 0, 1, 2, 3, \ldots\}\) is called the set of \(\ldots\).

10. Solve the given equations:
    a. \(-x+5 = -2(x-1)-(x-2)\)
    b. \(0.03(m+7) = 0.02(5-m) + 0.03\)
    c. \(-4x = \frac{5(1-x)}{6}\)
    d. \(-2(2x-5) = -3x+7-x+3\)

11. Solve, graph on a number line and write in interval notation the given inequalities:
    \(-x-2 \geq 3x-7\)

12. Solve the formula \(2x-3y=11\) for \(y\).

13. Solve the formula \(A=P+PRT\) for \(R\).
14. Translate into an algebraic expression:
   a. Five more than twice a number
   b. Three times the sum of a number and two

15. If 2 is subtracted from five times a certain number, the result is 38. Find the number.

16. Find the measures of the three angles of a triangle if the second angle is twice the first angle, and the third angle is half the second angle.

17. How many liters of 25% and how many liters of 75% antibiotic solution are needed to be mixed together to get 60 liters of a 55% antibiotic solution?

18. Suppose that a board 20 ft long is cut into two pieces. Four times the length of the shorter piece is 4 ft less than three times the length of the longer piece. Find the length of each piece.