Algebra 1   Final Review   Fall 2013

Chapter 1

For 1 to 4 write an algebraic expression for each phrase.

1. The sum of a number and 12.
2. The product of 2 and a number.

3. The quotient of 36 and a number.
4. Four less than nine times a number.

Simplify each using order of operations. **NO Calculator**

5. $10 + 20 \div (2 + 3 \bullet 6)$
6. $18 - 3 + 6 - 2 + 1$
7. $24 \div 3 \bullet 4 \div 2$

8. $4 + 2(9 - 6)^2$
9. $14 - 2[12 + (3^2 - 1)]$
10. $|7| - |-3|$

11. $|-7 + 2| + |-1|$

Evaluate for $x = -2$ $y = 4$ $a = 5$ $b = -3$ **NO Calculator**

12. $2a^2 - b$
13. $b^2 + xy$
14. $-x + b$

Simplify by removing the parentheses using the distributive property.

15. $4(3m + 2)$
16. $-10(2A - 8)$
17. $-(4k - 3)$
18. $\frac{3}{5}(10c + 35)$

Simplify by combining like terms. You may have to use the distributive property first.

19. $12M + N - 9 + 2N + M - 2 + 8M$
20. $x^2 + 2x^3 - 6x + 14x^2 - 9x^3 + x - 15x^2$

21. $mn^2 - 4mn + 5m^2n - 9mn + 4m^2n + 12mn^2$
22. $5(Q + 2) - 2(3Q - 7) + 20$

Chapter 2

For 1 to 21 solve each equation.

1. $-32M = 768$
2. $T + 37.1 = 78.9$
3. $N - 26.8 = -37.2$
4. $\frac{W}{4} = 40$

5. $\frac{8}{7}Y = 24$
6. $3P + 41 = 95$
7. $16 - 4A = -116$
8. $\frac{E}{9} - 6 = 20$

9. $20 - L = 203$
10. $16 + \frac{3}{7}G = 34$
11. $8(3M + 2) = 376$
12. $4W + 2(W - 3) = -42$

13. $8Q + 17 - 6Q - 5 = 19.5$
14. $3(T + 7) + 2(4T - 3) = 158$
15. $7K + 305 = 12K$

16. $10 - 2R = -8R + 148$
17. $6V = 165 + 9V$
18. $9M - 4(M + 3) = 4M - 23$

19. $\frac{5x}{3} + \frac{7}{6} = \frac{11}{12}$
20. $7a + 2(a - 9) = a + 7 + 8a$

1

21. $4 - 3(2c - 5) + 4c = 5c + 11 - 7c + 8$

22. Solve this equation for K. $\frac{K}{R} = T$ 23 Solve this equation for M. $M - P = Y$

24. Solve this equation for V. $VEJ = Q$ 25. Solve this equation for S $SR - M = U$

26. Solve this equation for C $\frac{H + C}{W} - R = A$
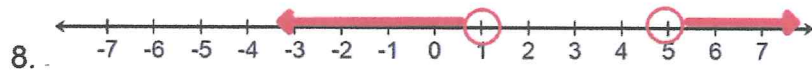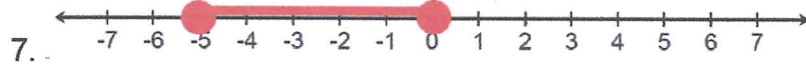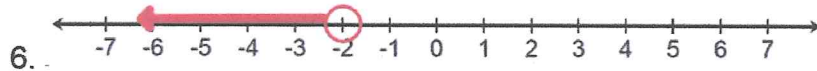
27. Solve this equation for R $M(R - K) + B = G$

Chapter 3

For 1 to 4, graph each inequality on a number line.
1. $M > 7$ 2. $Q \leq -2$ 3. $-3 \leq K$ 4. $R < 5$ or $R > 8$ 5. $x \geq -3$ and $x \leq 1$

For 6-11, write an inequality for each graph or statement.

6.

7.

8.

9. I can carry up to 8 pieces of wood.   10. He needs at least 50 votes to win the election.

11. She can get no more than 3 wrong to get an A.

For 12 to 15, solve each inequality.
12 $4K + 32 > 8$ 13. $56 > -4R$

14. $9 - 5(M + 3) + 2M \geq 27$ 15. $-20 < 2x + 4 < 14$

16. Classify each number as either Rational or Irrational. If it is Rational determine if it is also an Integer, Whole Number, or a Natural Number
a. -4.5 b. $\frac{12}{7}$ c. $\sqrt{6}$ d. $9.\overline{33}$ e. π f. -9 g. 0

Chapter 4

1. Solve each proportion.

a) $\frac{12}{45} = \frac{x}{72}$ b) $\frac{4y+1}{8} = \frac{y-2}{3}$

2. Carla can write 4 paragraphs every 15 minutes. At the same rate how long will it take to write 33 paragraphs?

3. After a survey it's found that 18% of the viewers like Corn Flakes. If 40,000 viewers liked cornflakes, how many total viewers were there?

4. What is 31% of 500?   5. 56 is what percent of 24?

6. Upon testing a sample of 65 cans of soup it was found that 7 of them were not sealed properly. What percent of the cans were not sealed properly?

7. The scale on a drawing is 4:25. If the drawing is 18 cm long, how long is the actual object?

8. The scale on a drawing is 6:35. If the actual object is 48 inches tall how tall is it in the drawing?

9. Given the figures shown below are similar find the lengths of the missing sides below.

a) WC =   b) KB =