Algebra I – Summer Review

Students, the following problems are designed to help you be successful in Algebra I. Thank you for taking the time to complete this summer packet. If you turn this in on the first day of school, your teacher will reward you with bonus points.

***NOTE: Calculators are allowed for this review.**

Algebra I – Summer Review

Order of Operations

Evaluate each expression. Show all work for full credit. No calculators, please.

1. $20 - 8 \bullet 2 + 5$

2. $6 \div 3 + 2 \bullet 7$

3. $2 \bullet 3^2 \div 8$

4. $10 \div (3 + 2) + 9$

5. $6(5 - 3)^2 + 3$

6. $6 \bullet 5 + 3 \bullet 7 - 36 \div 4$

7. $4(7 - 5)^3 + 11 - 13 \bullet 2$

8. $2\,[3 - 2(7 - 1) - 4^2]$

9. $\dfrac{8 + 7^2 - 5}{7 \bullet 4}$

10. $\dfrac{47 - (5 - 2)(1 + 2^3)}{3 \bullet 7 - 5^2}$

Adding and Subtracting Fractions & Mixed Numbers

Simplify in lowest terms. Show all of your work for full credit. No calculators, please.

1. $\frac{3}{5}-\frac{3}{10}$

2. $\frac{7}{8}-\frac{2}{3}$

3. $\frac{7}{8}-\frac{3}{5}$

4. $2\frac{3}{8}+4\frac{1}{8}$

5. $5\frac{1}{4}+1\frac{4}{9}$

6. $1 - \frac{1}{14}$

7. $6\frac{5}{9}-2\frac{1}{3}$

8. $9\frac{1}{4}-7\frac{5}{6}$

9. $\frac{1}{2}+\frac{2}{3}-\frac{5}{12}$

10. $5+3\frac{4}{5}-2\frac{1}{4}$

Multiplying and Dividing Fractions & Mixed Numbers

Simplify in lowest terms. Show all of your work for full credit. No calculators, please.

1. $\frac{2}{3} \bullet \frac{3}{4}$

2. $\frac{5}{16} \bullet \frac{2}{7}$

3. $24 \bullet \frac{5}{6}$

4. $3 \bullet 2\frac{4}{9}$

5. $1\frac{7}{8} \bullet 2\frac{1}{3}$

6. $\frac{1}{4} \div \frac{5}{8}$

7. $12 \div \frac{3}{8}$

8. $12\frac{1}{4} \div 1\frac{3}{4}$

9. $7\frac{1}{5} \div 2\frac{1}{4}$

10. $\frac{7}{8} \div 2\frac{7}{12}$

Adding and Subtracting Integers

Find the sum or difference. Show all of your work for full credit. No calculators, please.

1. $0 + (-5)$

2. $2 + (-9) + 3$

3. $-3 + (-6)$

4. $-5 + 10 + (-3)$

5. $26 - 33$

6. $15 - |-6|$

7. $9 - |13|$

8. $-2 - (-7)$

9. $-8 - (-12) + 3$

10. $3 - (-8) + (-9)$

Multiplying and Dividing Integers

Find the product or quotient. Show all of your work for full credit. No calculators, please.

1. (-3)(-7)

2. (-2)(-1)(-6)

3. (-13)(0)

4. $\left(-\frac{1}{2}\right)(3)(-2)$

5. $(-1)^4$

6. -24 ÷ 8

7. -90 ÷ (-10)

8. 0 ÷ (-7)

9. $(-6)^2 \div 6$

10. $(-2)^3 \div (-4)$

The Distributive Property and Combining Like Terms

Simplify each expression. Show work for full credit.

1. $3(x + 4)$

2. $4(y – 2)$

3. $30x – x + 12y + 6x – 4y$

4. $5(2n + 6) + 7n$

5. $6p + 3(2p + 5) – 7$

6. $12 – 3(7 + x)$

7. $14 – 2(x - 8)$

8. $5g – (8 – 3g) + g$

9. $7(7 + 5x) + 4(x – 6)$

10. $2(9n + 5) – 8(6n – 1)$

Expressions, Equations, and Inequalities

Write an expression, equation, or inequality.

1. Three times a number increased by twelve.

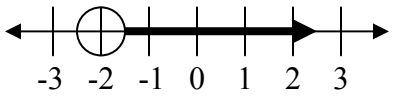
2. The sum of four and a number is ten.

3. Six less than 4 times a number is less than 21.

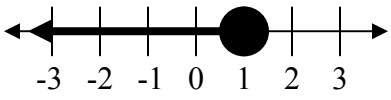
4. The quotient of a number and sixteen is greater than or equal to 7.

Write each inequality.

5.



6.



Graph each inequality.

7. $x < -3$

8. $x \geq -1$

9. $x \leq -4$

10. $-2 < x \leq 5$