Worksheet to review material that is covered in Chapter 1 –

You will be expected to complete this worksheet and bring the 1st day of school in Algebra 2.

We will have a graded assessment the first couple days of school on this material.

1. On a number line, name the point that is halfway between -5 and -2.

2. On a number line, name the point that is two thirds of the way -5 and 1.

3. Write a statement using symbols:
   a. Negative two is less than two.
   b. Six is greater than negative five.

4. Graph each pair of numbers on a number line and then write an inequality statement comparing the numbers:
   a. $\frac{1}{2}, -\frac{3}{2}$
   b. $-\frac{5}{4}, -\frac{3}{4}$

5. Arrange each list of numbers in order least to greatest.
   a. 1, -1, -5, 3, -3
   b. $-\frac{3}{4}, \frac{3}{4}, -\frac{1}{4}, \frac{1}{2}, -\frac{1}{2}$

6. Place an inequality symbol between to make it a true statement:
   a. $\frac{3+2}{3-2}$ _____ $\frac{6+4}{6-4}$
   b. (12 ÷ 6) ÷2 ____ 12 ÷ (6 ÷ 2)

7. Simplify using order of operations:
   a. $12-(5-2+3)$
   b. $4^2-6\div 2+3$
   c. $\frac{3^2}{5-(3-1)}$

8. Evaluate each expression if x = 3, y = 2, z = 5
   a. $(xz-zy)^3$
   b. $\left(\frac{z^2-y^2-x^2}{xy}\right)^5$

9. Evaluate each if a = 6 and b = -2
   a. $|a| - 3|b|$
   b. $\left|a^2 - b^2\right|$
10. Simplify: (Order of Operations)
   a. $5-(2-9)-(4-11)$
   b. $(3-6-9)-[8+(-4)-(-7)]$
   c. $|6-13|-|22-(-6)|$
   d. $(-3)(-u)(-7v)$
   e. $(-6-4)(-6+5)$
   f. $(-9)^2(-2+2)(-5)$
   g. $-6 \div \left(-\frac{1}{3}\right) \div (-1)$
   h. $\frac{4^2-5^2}{(-4)+(-5)}$
   i. $\frac{(-12)\left(-\frac{3}{4}-\frac{1}{2}\right)}{\frac{5}{9} \div (-10)}$
11. Simplify perform indicated operations and combining like terms:
   a. $4(3-y)+2(1-y)$
   b. $t(2w-9)-2(2t-7)$
   c. $6m-4n+(-7)m-(-5)n$
   d. $(6x-5y+4)+2(-2x+3y-2)$
   e. $\frac{9x^2+27}{-3}$
   f. $\frac{-15r^3-5r-5}{-5}$
12. Solve each equation:
   a. $4z+11=3$
   b. $24-2y=6y$
   c. $2(x-3)=x+3$
   d. $-(5-x)=x+3$
   e. $2z-(1-z)=11-z$
   f. $3(1-t)+5=3(1+t)-7$

g. $2(5t-3)-t=3(3t-2)$

13. Solve the equation for the given variable:

a. $A=\frac{1}{2}bh$ for h

b. $ax+by=c$ for y

14. Represent each phrase in an algebraic expression:

a. Five more than a number

b. One less than twice a number

c. Seven less than half of a number

15. Represent an equation for given information and then solve:

a. Amy has $8 less than Maria. Together they have $30. How much money does each girl have?

b. If one side of a square is increased by 8 cm and the adjacent side is decreased by 2cm., a rectangle is formed whose perimeter is 40 cm. Find the length of the side of the square.

c. Find two consecutive integers whose sum is 71.

d. Find two consecutive even integers whose sum is 86.

e. Find two consecutive integers whose sum is 399.