1. For a number to be in scientific notation, the first factor must be

\_\_\_\_\_\_\_\_\_\_ and the second factor must be \_\_\_\_\_\_\_\_\_\_.

2. Write 0.000808909 in scientific notation.

3. Write 3.456 x 103 in standard form.

4. Write the product of (5.5 x 10-8)(9 x 109) in scientific notation.

5. Write the quotient of (8.9 x 10-9)  (2.5 x 10-8) in scientific notation.

6. Write the quotient of (8 x 105)  (7.9 x 10-8) in scientific notation.

7. Evaluate the expression and write the answer in scientific notation.

(8 x 10-2)(2 x 109)  (2.3 x 108)

8. Simplify -8.7t + 50 – 8.7 + 32t

9. Simplify the expression 6(2b + 3) – 5b.

10. Evaluate 4.3n – 3p for n = -1 and p = -2.

11. Use d = rt to find the distance (d) that I traveled in four hours at a speed of 28 miles per hour. Rate (r) is the speed and time is (t).

12. Evaluate 7n – 2m for n = 5 and m = -3.

1. Write each expression using a single positive exponent.

a) x9(x4) b) a13  a-9 c) f9  f1 d) (-c)9  (-c)9

2. Simplify each expression. Write your answer as a number or a fraction without an exponent.

a) 50 b) 3-3 c) 53

3. Simplify each expression. Write your answer using positive exponents only.

a) b-9 b) d3  d-7

4. Write each expression using a single positive exponent.

 

5. Find the product of each of the following. Write your answer in scientific notation.

a) (6 x 103)(15 x 108)

b) 0.02(19 x 10-5)

6. Factor completely the following expressions.

a) 3x – 24

b) -18x -45

c) 15 – 10x

d) 3x -6y + 9z

7. Place the following numbers in order from greatest to least.

a) 4.6 x 103, 4.4 x 103, 4.5 x 104, 43 x 105

b) 3.3 x 10-2, 3.4 x 10-6, 3.2 x 10-4, 3.1 x 10-4

8. Write an algebraic expression for each of the following word phrases.

a) The difference between 6 and a number

b) The quotient of a 6 and a number.

c) The product of 6 and a number.

d) Six less than a number.

e) The sum of 6 and a number.

9. How many times bigger is 2.4 x 10-3 than 4.2 x 10-7?

1. Solve the following algebraic equations. Make sure you use the method you have been taught in class.

a) x -9 = 17 b. 5d = -15

c)  = -11 d. y +19 = -7

e) x – (-8) = 18 f) y + (-9) = 12

Write and solve an equation for each problem.

1. A mason is laying a brick foundation 72 inches wide. Each brick is 6 inches wide. How many bricks will the mason need across the width of the foundation?

2. The music boosters sell 322 music buttons and raise $483 for the music department. How much does each button cost?