Write each number using scientific notation.

1. 500,000 =

2. 356,000,000 =

3. 54,800,000 =

4. .00096 =

5. .00468 =

6. .0000000913 =

Use scientific notation to solve. Follow the steps given.

Step 1 Estimate your answer by rounding each number to one significant digit before multiplying or dividing.
Step 2 Rewrite each factor using scientific notation.
Step 3 Multiply or divide the numbers and the exponents separately.
Step 4 Make sure your final answer is in correct form.
Step 5 Check for significant digits.
Step 6 Check your answer using a calculator.

7. 190,000 x 6,000,000 =

8. 181,500 x 4,160,000,000 =

9. 860,000 x 36,400,000 =

10. .000085 x 9,000,000,000 =

11. .00093 x 50,000 =

12. .0021 x .000350 =

13. 560,000 ÷ 4,000,000,000 =

14. $\dfrac{9,800,000}{2,450,000}$ =

15. .0036 ÷ .012 =

Write each number using scientific notation.

1. 600,000 =

2. 854,000,000 =

3. 62,800,000 =

4. .000095 =

5. .00528 =

6. .000000921 =

Use scientific notation to solve. Follow the steps given.

Step 1 Estimate your answer by rounding each number to one significant digit before multiplying or dividing.
Step 2 Rewrite each factor using scientific notation.
Step 3 Multiply or divide the numbers and the exponents separately.
Step 4 Make sure your final answer is in correct form.
Step 5 Check for significant digits.
Step 6 Check your answer using a calculator.

7. 180,000 x 5,000,000 =

8. 915,000 x 3,000,000 =

9. 96,000 x 43,600,000 =

10. .000075 x 9,000,000,000 =

11. .000079 x 62,500 =

12. .00031 x .0000004 =

13. 52,000 ÷ 40,000,000 =

14. $\dfrac{24{,}000{,}000}{60{,}000{,}000{,}000}$ =

15. .00035 ÷ .007 =

Write each number in scientific notation.

1. 700,000 =   2. .0076 =

For #3-6   5,000 x 8,000,000 =

3. Estimate your answer and rewrite each number using scientific notation.

4. Multiply the numbers and the exponents.

5. Simplify and check for significant digits.

6. Check your answer using a calculator.

For #7-10   61,300 ÷ 120 =

7. Estimate your answer and rewrite each number using scientific notation.

8. Divide the numbers and the exponents.

9. Simplify and check for significant digits.

10. Check your answer using a calculator.

Solve.

11. $1,000^{\frac{2}{3}} \cdot 10^2 \cdot 10^{-3} =$

12. $8^{\frac{2}{3}} \cdot 4 =$

13. $10^{\frac{1}{3}} \cdot 100^{\frac{3}{2}} \cdot 10^{-1} =$

14. $A^5 A^{-\frac{1}{2}} A^{-\frac{3}{2}} =$

15. 10 km =_____ miles

16. 75 grams =_____ ounces

17. $(3X - 3Y)^2 =$

18. $(X + Y)(X^2 - XY + Y^2) =$

Find all solutions for X and check.

19. $X(X + 4) + 5X + 3 = -17$

20. $X(2X - 9) = 0$

SYSTEMATIC REVIEW

Write each number in scientific notation.

1. 586,000,000 =

2. .000595 =

For #3-6   18,000 x .0072 =

3. Estimate your answer and rewrite each number using scientific notation.

4. Multiply the numbers and the exponents.

5. Simplify and check for significant digits.

6. Check your answer using a calculator.

For #7-10   1,450,000 ÷ 290 =

7. Estimate your answer and rewrite each number using scientific notation.

8. Divide the numbers and the exponents.

9. Simplify and check for significant digits.

10. Check your answer using a calculator.

Solve.

11. $(5^{\frac{1}{2}})^{-4} \, 5^0 \, 5^2 =$

12. $9^{\frac{3}{2}} \cdot 27 \cdot 81^{\frac{1}{4}} =$

13. 26 miles = _____ km

14. 500 grams = _____ ounces

15. $(D - 5)(D^2 + 5D + 25) =$

16. $(A + T)(\underline{\quad} - \underline{\quad} + \underline{\quad}) = A^3 + T^3$

   Try setting this up like a long division problem.

Find all solutions for X and check.

17. $X(5X - 10) = 0$

18. $X^2 + 7X - 18 = 42$

19. Find three consecutive odd integers such that ten times the first, plus two times the second, minus four times the third, plus eight, equals three times the third, minus eleven.

20. Nicole has 16 coins consisting of dimes and nickels. If she has a total of $1.35, how many of each coin does she have?

Write each number in scientific notation.

1. 23,800,000 =

2. .000000112 =

For #3-6   .92 x 640,000 =

3. Estimate your answer and rewrite each number using scientific notation.

4. Multiply the numbers and the exponents.

5. Simplify and check for significant digits.

6. Check your answer using a calculator.

For #7-10   .4 x .25 ÷ .001 =

7. Estimate your answer and rewrite each number using scientific notation.

8. Multiply and divide the numbers and the exponents.

9. Simplify and check for significant digits.

10. Check your answer using a calculator.

Solve.

11. $A^{\frac{3}{4}} A^{\frac{4}{3}} =$

12. $9^{\frac{1}{2}} \cdot 3^2 \cdot 27^{\frac{4}{3}} =$

13. $100 \text{ m} = \underline{\hspace{2cm}} \text{ yd}$

14. $2 \text{ liters} = \underline{\hspace{2cm}} \text{ qt}$

15. Factor: $X^2 - B^2$

16. Factor: $4X^5 - 324X$

Find all possible solutions and check.

17. $X^2 + X - 12 = 60$

18. $4 - A^2 = 0$

Use scientific notation to solve the problems.

19. Look up how many square miles there are in North America. Change square miles to square feet.

20. If there are six billion people in the world, how many square feet would each person receive if everyone lived in North America? What fraction or decimal part of an acre is that? Round the number of square feet in an acre to 44,000 for this and similar problems.

Simplify, then solve and check.

1. $-3A - 5 + 4A - 6 + 2A = 19$

2. $8B - 6 + 5B - 3 - 3B = 41$

3. $-5Y + 3 - 6Y + 2Y + 4 = 13$

4. $8Q - Q + 7 - 4 - 3Q = 7 + 4 \times 10$

5. $8M - 4M - 6 - 3 + 5M = 8^2 - 1$

6. $7C - 4C + 5 - 8 + C = 5^2 + 4$

7. $11A - 4A - 18 = 2A + A + 10$

8. $2B - 10B - 15 + 5 = 8B - 40 - 4B - 6$

9. $3C - 6 + 2C = 10C - 2C + 6$

10. $2D - 8 - 5D = -3D - 2D + 6$

11. $8K - 6 + 3K - 2K + 3 = 4 \times 33$

12. $B + B + B + 6 = 6B + 5 - 2B + 9$

13. $-2C + 12 = 2C - 6 + 6C - 12$

14. $10X - 3X - 9 + 3 - X = 51 \div 3 + 1$