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5.NBT.A.2 Applications of Scientific Notations

5.NBT.A.2: Explain patterns in zeros of the product and in the placement of the decimal point.

1. Write each number in the table below using scientific notation.

Number	Scientific Notation
18,000,000	
360,000,000	
24,000,000,000	
63,000,000,000	
67,000,000,000,000	

Number	Scientific Notation
58,000,000,000	
477,000,000,000	
26,000,000,000,000	
30,000,000,000,000,000	
2,040,000,000,000,000	

2. Write each of the following in standard form.

   a. 8.13×10^3
   b. 4.012×10^4
   c. 5.0001×10^6
   d. 2.18×10^8
   e. 8.17×10^6

Answers:
a.
b.
c.
d.
e.

3. Use the table on your right to solve the following problems.
   a. Write the distance of the city that is farthest from New York using scientific notation.
   b. Write the distance of the city that is nearest to New York using scientific notation.
   c. What is the difference in distance from New York of Bangkok and Dubai? Write it using scientific notation.
   d. What is the difference in distance from New York of Paris and Tokyo? Write it using scientific notation.

City Distances

City	Approximate Distance from New York (m)
Bangkok	13,920,000
London	5,570,000
Paris	5,830,000
Kuala Lumpur	15,100,000
Tokyo	10,840,000
Dubai	11,000,000
Hong Kong	12,950,000

Answers:
a. b. c. d.

4. A big company has 2×10^5 employees. Each employee is paid $9 per hour. How much money does the company pay to all employees in an hour?

Answer:

5. How will you write 12,030,000,000,000 in scientific notation?
   A. 1.203×10^{13} B. 12.03×10^{11} C. 1.203×10^{12} D. 1.23×10^{13}

Answer:

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Answer Key

5.NBT.A.2: Explain patterns in zeros of the product and in the placement of the decimal point.

1. Write each number in the table below using scientific notation.

Number	Scientific Notation
18,000,000	1.8×10^7
360,000,000	3.6×10^8
24,000,000,000	2.4×10^{10}
63,000,000,000	6.3×10^{10}
67,000,000,000,000	6.7×10^{13}

Number	Scientific Notation
58,000,000,000	5.8×10^{10}
477,000,000,000	4.77×10^{11}
26,000,000,000,000	2.6×10^{13}
30,000,000,000,000,000	3×10^{16}
2,040,000,000,000,000	2.04×10^{15}

2. Write each of the following in standard form.

a. 8.13×10^3
b. 4.012×10^4
c. 5.0001×10^6
d. 2.18×10^8
e. 8.17×10^6

Answers:
a. 8,130
b. 40,120
c. 5,000,100
d. 218,000,000
e. 8,170,000

3. Use the table on your right to solve the following problems.
   a. Write the distance of the city that is farthest from New York using scientific notation.
   b. Write the distance of the city that is nearest to New York using scientific notation.
   c. What is the difference in distance from New York of Bangkok and Dubai? Write it using scientific notation.
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City Distances

City	Approximate Distance from New York (m)
Bangkok	13,920,000
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Tokyo	10,840,000
Dubai	11,000,000
Hong Kong	12,950,000

Answers:
a. 1.51×10^7 b. 5.57×10^6 c. 2.92×10^6 d. 5.01×10^6

4. A big company has 2×10^5 employees. Each employee is paid $9 per hour. How much money does the company pay to all employees in an hour?

Answer:
$1,800,000

5. How will you write 12,030,000,000,000 in scientific notation?
   A. 1.203×10^{13} B. 12.03×10^{11} C. 1.203×10^{12} D. 1.23×10^{13}

Answer:
A. 1.203×10^{13}