Day 1~ Scientific Notation HW

Student

Date

1. Which expression is equivalent to $\frac{5^{12} \cdot 7}{5^2 \cdot 7^2}$?

A. $\frac{5^6}{7^2}$

B. $\frac{5^6}{7}$

C. $\frac{5^{10}}{7}$

D. $\frac{5^{10}}{7^2}$

$\frac{5^{12}}{5^2} \cdot \frac{7^1}{7^2}$

$5^{12-2} \cdot 7^{1-2}$

$5^{10} \cdot 7^{-1}$

$\frac{5^{10} \cdot 7^{-1}}{7^1}$

2. What is the value of $\sqrt{0.04}$?

A. $2 = 2 \cdot 2 = 4$

B. $0.2 = .2 \cdot .2 = .04$

C. $0.02 = .02 \cdot .02 = .0004$

3. A small paper clip weighs about 0.0005 kilogram. What is 0.0005 written in scientific notation?

A. 5×10^{-4}

B. 5×10^{-3}

C. 5×10^{3}

D. 5×10^{4}

0.0005

5×10^{-4}

4. What is the value of 0.002 written in scientific notation?

A. 2×10^{-3}

B. 2×10^{-2}

C. 2×10^{2}

D. 2×10^{3}

0.002

2×10^{-3}

5. The average distance from Earth to the Moon is approximately 238,855 miles. Which expression is the best estimate of this distance?

A. 2×10^{5} miles

B. 3×10^{5} miles

C. 2×10^{6} miles

D. 3×10^{6} miles

238,855.

rounded because it is an estimate

2.4×10^5

↑ closer to 2

6. What is the standard form of 7.95×10^8?

A. 795,000,000

B. 7,950,000,000

C. 79,500,000,000

7.95×10^8

7.950000000.

7. The speed of light is about 3.0×10^8 meters per second. The speed of sound at sea level is about 3.0×10^2 meters per second. *About* how many times faster is the speed of light than sound?

A. 1,000

B. 6,000

C. 1,000,000

D. 3,000,000

$\frac{3.0 \times 10^8}{3.0 \times 10^2}$

$\frac{3.0}{3.0} \times 10^{8-2}$

$1 \times 10^{8-2}$

1×10^6

1000000.

8. In 2005, about 3.1 billion books were sold in the United States. How is the number of books sold written in scientific notation?

A. 3.1×10^6

B. 3.1×10^7

C. 3.1×10^8

(D.) 3.1×10^9

3,100,000,000
↑ Billion ↑ Million ↑ Thousands

3,100,000,000

3.1×10^9

9. The measure of a virus is 0.000085 cm. How is the measure of the virus written in scientific notation?

A. 8.5×10^5

B. 8.5×10^{-4}

(C.) 8.5×10^{-5}

0.000085

8.5×10^{-5}

10. How many solutions does the equation $3x - 2x + 4 = 2 + x + 2$ have?

A. no solution

B. one solution

C. two solutions

(D.) infinitely many solutions

$3x - 2x + 4 = 2 + x + 2$

$1x + 4 = 4 + x$

$x + 4 = x + 4$ ← same equation, so infinitely many solutions

11. Which equation is equivalent to $3(2x - 5) = 7(x + 2)$?

A. $6x - 5 = 7x + 2$

B. $6x + 5 = 7x + 2$

(C.) $6x - 15 = 7x + 14$

D. $6x + 15 = 7x + 14$

$3(2x - 5) = 7(x + 2)$

$6x - 15 = 7x + 14$

12. Which fraction is equal to 0.555 . . . ?

A. $\frac{5}{11}$

B. $\frac{1}{2}$

(C.) $\frac{5}{9}$

D. $\frac{5}{8}$

Steps

① Identify digits repeating - 5

② Are the digits repeating directly after the decimal? yes

③ Place repeating digit in numerator

④ Place 9s is the denominator * The # of 9's depends on the number of digits repeating

$\frac{5}{9}$ ← repeating #
← one 9 because one digit repeats