

Name

Spiral Review 11

Directions: Show your work for credit. Use your notes and textbook for support

1. Use properties of exponents to write an equivalent expression for $5^4 \cdot 5^{-7}$

a. $\frac{1}{5^{28}}$

b. $\frac{1}{5^3}$

c. 5^{11}

d. $5^{-\frac{4}{7}}$

2. Write the product $(8.4 \times 10^4)(9.5 \times 10^3)$ in scientific notation.

Show your work

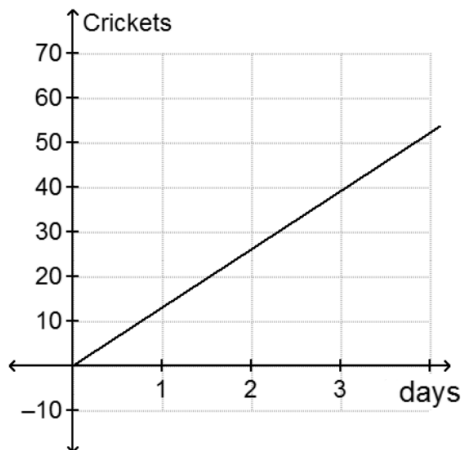
a. 79.8×10^7

b. 7.98×10^8

c. 79.8×10^{12}

d. 7.98×10^{13}

3. Jack graphs the number of crickets his gecko eats.



Caroline's hedgehog eats 13 worms per day. How do the rates of change of the functions compare?

- a. They are the same.
- b. The function for the hedgehog has a negative rate of change, while the function for the gecko has a positive rate of change.
- c. The rate of change for the hedgehog function is about 7 times as great as the rate of change for the gecko function.
- d. The rate of change for the gecko function is about 13 times as great as the rate of change for the hedgehog function.



4. According to scientists, the Earth's mass is 5.98×10^{24} kilograms. The mass of the Sun is 1.989×10^{30} kilograms. How much greater is the mass of the Sun than the mass of the Earth?



Hint:

But show your work !!!



Show your work

Answer in Scientific Notation _____ km

5. **A shipping company charges a fixed amount plus a certain amount per pound to ship a package. The total cost y , in dollars, to ship a package is given by the equation $y = 3x + 5$, where x is the weight of the package in pounds.**

Hint: Read the problem and the question multiple times. What is being asked?

Show your work

What is the weight of a package that can be shipped for \$17?

_____ pounds