Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Decimal Place Value – Challenge HW

1. A decimal between 4 and 5 has exactly four different digits. The decimal is greater than 4.1 but less than 4.12. The decimal must have a zero in it.

Is this statement true or false? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Explain why this is true or give an example to show that it is false. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Look at these numbers.



seventy-two and thirty-nine one-hundredths

Write both numbers in standard form.

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 Write a number sentence that compares the two numbers using <, >, or =.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Which statement comparing 0.053 and 0.34 is correct?

|  |  |
| --- | --- |
|  |  |
|  | **A.** | The value of 0.053 is greater because it has three digits after the decimal, and 0.34 has only two digits after the decimal. |
|  | **B.** | The value of 0.053 is greater because it has a 5 in the hundredths place, and 0.34 has a 4 in the hundredths place. |
|  | **C.** | The value of 0.34 is greater because it has two digits after the decimal, and 0.053 has three digits after the decimal. |
|  | **D.** | The value of 0.34 is greater because it has a 3 in the tenths place, and 0.053 has a 0 in the tenths place. |

1. Sebastian wrote the decimal numbers 53.078 and 53.09.

Compare the two numbers using <, >, or = .

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Write a decimal number that is located between these two numbers on the number line.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Scientists believe that modern humans have lived in Europe for about  $\frac{1}{10^{5}}$ of the years that the planet has been in existence. Earth is believed to have been in existence for 4,600,000,000 years.

For about how many years have modern humans lived in Europe? Show your work or explain your reasoning.

|  |
| --- |
|  |

1. Look at this equation.



 Which value of a makes the equation true?

|  |  |
| --- | --- |
|  |  |
|  | **A.** | 0.0005 |
|  | **B.** | 0.005 |
|  | **C.** | 500,000 |
|  | **D.** | 50,000,000 |

1. Which phrase describes the number of zeros in the product of 20 and $10^{3}$?

|  |  |
| --- | --- |
|  |  |
|  | **A.** | 1 fewer than the exponent |
|  | **B.** | 2 fewer than the exponent |
|  | **C.** | 1 more than the exponent |
|  | **D.** | 1. more than the exponent
 |

1. Rosa performs a multiplication operation on 7.2500 by moving the decimal point four digits to the right to get 72,500, as shown.



What multiplication problem can be represented by these steps?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Sal divides $6.8 ÷ 10^{3} $. How many places and in which direction does the decimal point move in the number 6.8? Show your work or explain how you know.
2. At the 2012 Summer Olympics, the women’s team from Great Britain set a world record in Team Pursuit Cycling with a time of 3 minutes and 14.051 seconds.

Suppose another team completed this event with a time that was two-tenths of a second greater.

Write the seconds part for that team’s time in standard form. Show your work or explain your reasoning.