

Problem Set

1. What is the smallest power of 10 that would exceed 987,654,321,098,765,432?
2. What is the smallest power of 10 that would exceed 999,999,999,991?
3. Which number is equivalent to 0.000 000 1: 10^7 or 10^{-7} ? How do you know?
4. Sarah said that 0.000 01 is bigger than 0.001 because the first number has more digits to the right of the decimal point. Is Sarah correct? Explain your thinking using negative powers of 10 and the number line.
5. Order the following numbers from least to greatest:

10^5 10^{-99} 10^{-17} 10^{14} 10^{-5} 10^{30}