

How to Compare Numbers in Scientific Notation

<http://video.answers.com/how-to-compare-numbers-in-scientific-notation-285014458>

Put the sentences below into the right order,
as shown in the example.

First part

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A)	The first one wants us to compare 2.7 times 10 raised to the negative 4 with 6.9 times 10 raised to the negative seven 7.
B)	In this lesson, let's learn how we compare numbers in scientific notation, OK? We'll do three problems.
C)	It's less than because the power here is less than the power here. Negative seven is less than negative four.
D)	10 to the 6 and 10 to the 8, which one is lower?
E)	So the simple way to the compare numbers in scientific notation is compare the powers, OK?
F)	Third one, let's look at the number in scientific and in standard notation.
G)	Lower the power, lower the number, simple.
H)	This is lower so 7.87 times 10 raised to the 6 is less than 7.87 times 10 raised to the 8, because eight is greater than six.
I)	Let's do the second one.
J)	So in this case, the power here is negative four, the power here is negative seven, this one is lower.
K)	So we've got 3.45 times 10 raised to the negative 5.
L)	So let's convert this to standard notation.
M)	So 6.9 times 10 raised to the negative seven 7 is less than 2.7 times 10 raised to the negative 4.

Second part If you have finished before the others :

N)	I could have done the exact same problem in other way.
O)	Negative 5 means I'll move the decimal spot five places left.
P)	Let's convert this to scientific notation.
Q)	Well, this is smaller because I've got four leading zeros, here I've got three leading zeros.
R)	So it is 3.45 times 10 raised to the negative, because I'm moving right one, two, three, four digits : 10 raised to the negative 4.
S)	So let me add a bunch of zeros and move this five places to the left which is one, two, three, four, five
T)	Obviously this got a smaller degree, the exponent is smaller so this number is smaller than this one which is the same as this.
U)	What is that mean?
V)	So now I've got 3.45 to 10 raised to the negative 4 and 3.45 and 10 raised to the negative 5.
W)	I've got 0.000345, how many moves, how many places do I have to move right?
X)	So what am I left with? 0.0000345, between these two which one is smaller?
Y)	One, two, three, four to get to the first non-zero digit.
Z)	That this number 3.45 times 10 raised to the negative 5 is less than 0.000345.