

# Comparing Decimals

To compare decimals, **compare them place by place** (tenths to tenths, hundredths to hundredths, *etc.*), starting from the *biggest* place. A place value chart can help.

**Example 1.** Which is more, 0.04 or 0.016?

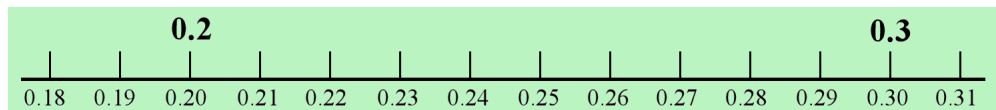
- Check the ONES: Both 0.04 and 0.016 have zero ones.
- Next, the TENTHS: They both have zero tenths.
- The HUNDREDTHS: 0.04 has *four* hundredths whereas 0.016 has *one*.
- THOUSANDTHS do not count since we found that 0.04 had more hundredths than 0.016. Even one hundredth is more than the 6 thousandths 0.016 has.

	0	.	0	4	
	0	.	0	1	6
T	O		te	hu	th

So, this **place-by-place comparison** shows that  $0.04 > 0.016$ .

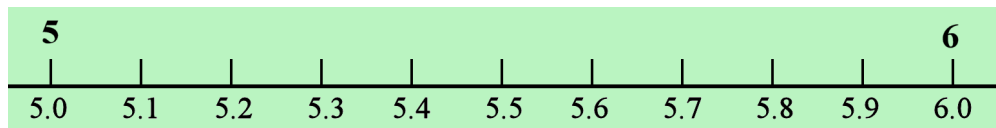
1. **a.** Some students think that  $0.3 < 0.21$  because  $3 < 21$ . But is it so? Mark 0.3 and 0.21 on the number line below.

0.3  0.21



- b.** Mark 5.02 and 5.2 on the number line. Are they equal, as some students think?

5.02  5.2



2. Write these numbers in order, from the smallest to the greatest. The number line above can help.

5.01   5.3   5.03   4.8   5.24   4.92   5.1   5.15   5.19

\_\_\_\_\_ < \_\_\_\_\_ < \_\_\_\_\_ < \_\_\_\_\_ < \_\_\_\_\_ < \_\_\_\_\_ < \_\_\_\_\_ < \_\_\_\_\_ < \_\_\_\_\_

3. Compare the numbers and write  $<$ ,  $=$ , or  $>$ . You can use the place value charts to help.

**a.** 0.6  0.006

		.			
		.			
T	O		te	hu	th

**b.** 0.03  0.3

		.			
		.			
T	O		te	hu	th

**c.** 0.8  0.008

		.			
		.			
T	O		te	hu	th

**d.** 0.80  0.800

		.			
		.			
T	O		te	hu	th