

[Illustrative Mathematics](#)

2.NBT Comparisons 1

[Alignment 1: 2.NBT.A.4](#)

Are these comparisons true or false?

- a. 2 hundreds + 3 ones $>$ 5 tens + 9 ones
- b. 9 tens + 2 hundreds + 4 ones $<$ 924
- c. 456 $<$ 5 hundreds
- d. 4 hundreds + 9 ones + 3 ones $<$ 491
- e. 3 hundreds + 4 tens $<$ 7 tens + 9 ones + 2 hundred
- f. 7 ones + 3 hundreds $>$ 370
- g. 2 hundreds + 7 tens = 3 hundreds - 2 tens

Commentary:

This task requires students to compare numbers that are identified by word names and not just digits. The order of the numbers described in words are intentionally placed in a different order than their base-ten counterparts so that students need to think carefully about the value of the numbers. Some students might need to write the equivalent numeral as an intermediate step to solving the problem.

Solution: Solution and explanations

- a. True. It reads, "Two hundreds and three ones is greater than five tens and nine ones."

$$203 > 59$$

203 is, in fact, greater than 59 because 203 has two 100s (a two in the hundred's place), while 59 has no 100s (a zero in the hundred's place).

- b. True. It reads, "Nine tens, two hundreds, and four ones is less than 924."

$$294 < 924$$

294 is, in fact less than 924 because 294 has two 100s (a two in the hundred's place), while 924 has nine 100s (a nine in the hundred's place).

- c. True. It reads, "456 is less than five hundreds."

$$456 < 500$$

456 is, in fact, less than 500 because 456 has four 100s (a four in the hundred's place) and some tens and ones that total less than one hundred, while 500 has five 100s (a five in the hundred's place).

- d. True. It reads, "Four hundreds and $9 + 3 = 12$ ones is less than 491." 12 ones is the same as one ten and three ones, so let's rewrite the previous sentence. "Four hundreds, one ten, and two ones is less than 491."

$$412 < 491$$

412 is, in fact, less than 491. Although both numbers have four 100s (fours in the hundred's place), 412 only has one ten (a one in the ten's place), while 491 has nine tens (a nine in the ten's place).

- e. False. It reads, "Three hundreds and four tens is less then seven tens, nine ones, and two hundreds."

$$340 < 279$$

340 is, in fact, greater than 279 because 340 has three 100s (a three in the hundred's place), while 279 has two 100s (a two in the hundred's place).

- f. False. It reads, "Seven ones and three hundreds is greater than 370."

$$307 > 370$$

307 is, in fact, less than 370. Although both numbers have three 100s (threes in the hundreds place), 307 has no 10s (a zero in the ten's place), while 370 has seven 10s (a seven in the ten's place).

- g. False. It reads $2 \text{ hundreds} + 7 \text{ tens} = 3 \text{ hundreds} - 2 \text{ tens}$

$$270 = 280$$

While both numbers have 2 hundreds (a two in the hundreds place), 270 has 7 tens (a seven in the tens place) while 280 has an 8 in the tens place. Therefore $270 < 280$



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