Comparing Exponents Step-by-Step Lesson

Compare the following values using the >, <, or = symbols.

$$7^3 _____ 3^7$$

Explanation:

Step 1: Determine the value of each side.

How many times to multiply the base by itself.

Base Number → 7^3

This tell us that we multiply 7 by itself 3 times or 7 x 7 x 7.

How many times to multiply the base by itself.

Base Number → 3^7

This tell us that we multiply 3 by itself 7 times or 3 x 3 x 3 x 3 x 3 x 3 x 3.

As it stands now we are comparing: 7 x 7 x 7 to 3 x 3 x 3 x 3 x 3 x 3 x 3.

Find the products of each side:

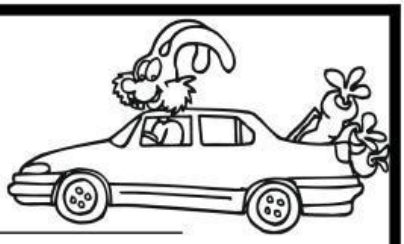
7 x 7 x 7 = 343 3 x 3 x 3 x 3 x 3 x 3 x 3 = 2,187

Step 2: Compare the values using symbols. We can see that the left side is much **less than** the right side or

$$7^3 < 3^7$$

343 2,187

LIVEWORKSHEETS



Comparing Exponents Independent Practice Worksheet 1

Name: _____ **Date:** _____

Directions: Compare the following exponents and determine which is greater than or less than.

1. 2^4 _____ 3^2
2. 5^3 _____ 7^2
3. 6^1 _____ 4^2
4. 10^4 _____ 3^6
5. 8^3 _____ 4^5
6. 9^2 _____ 7^3
7. 4^3 _____ 2^5
8. 12^2 _____ 8^3
9. 10^5 _____ 7^3
10. 3^4 _____ 1^6
11. 6^3 _____ 4^4
12. 5^2 _____ 3^5
13. 8^2 _____ 6^4
14. 9^3 _____ 10^2

LIVEWORKSHEETS