



Comparing Exponents Step-by-Step Lesson

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

$$7^3 \underline{\hspace{1cm}} 3^7$$

Explanation:

Step 1: Determine the value of each side.

Base Number $\longrightarrow 7^3$ How many times to multiply the base by itself.

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

Base Number $\longrightarrow 3^7$ How many times to multiply the base by itself.

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

As it stands now we are comparing: $7 \times 7 \times 7$ to $3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3$.

Find the products of each side:

$$7 \times 7 \times 7 = 343$$

$$3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3 = 2,187$$

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

$$7^3 < 3^7$$

$$343 \qquad 2,187$$

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

8. 12^2 _____ 8^3

2. 5^3 _____ 7^2

9. 10^5 _____ 7^3

3. 6^1 _____ 4^2

10. 3^4 _____ 1^6

4. 10^4 _____ 3^6

11. 6^3 _____ 4^4

5. 8^3 _____ 4^5

12. 5^2 _____ 3^5

6. 9^2 _____ 7^3

13. 8^2 _____ 6^4

7. 4^3 _____ 2^5

14. 9^3 _____ 10^2