Name: _____

In 1–3, write the base number for each expression.

1. 5^{12}

2. 1.2^2

3. $\left(\frac{1}{3}\right)^4$

In 4–6, write the exponent for each expression.

4. $7 \times 7 \times 7 \times 7$

5. $\left(\frac{2}{3}\right)^8$

6. $0.5 \times 0.5 \times 0.5$

In 7–8, write each power as repeated multiplication. Then evaluate.

7. 3^4

8. $\left(\frac{1}{7}\right)^2$

In 9–12, evaluate each expression.

9. 9^3

10. $\left(\frac{1}{4}\right)^3$

11. 99^0

12. 1.5×10^4

13. Is the sum of the areas of two smaller squares equal to the area of a large square if the side lengths of the squares are 8 feet, 5 feet, and 3 feet? Note that the area of a square is s^2, where s is the side length. Explain.

14. Lexi bought a new car. She drove 5^4 miles in the first month that she owned the car and 4^5 miles in the second month that she owned the car. How many miles did Lexi drive in all during the first two months that she owned the car?

15. Construct Arguments Is 0.3^4 equal to 0.9^2? Explain. © MP.3

16. What are two ways that you can represent 27 using 3?

17. Dustin computed his family's road trip as 4.43×10^3 miles. How many miles did Dustin's family travel on the road trip?

18. The area of the Great Lakes is about 9.5×10^4 square miles. About how many square miles is the area of the Great Lakes?

19. Reasoning What is the value of 1^{102}? What is the value of any power of 1? Justify your answer. © MP.2

20. Humans can distinguish up to 18,400,000 individual dots called pixels on a typical computer display. Can a human distinguish pixels on a same-sized HDTV with 2×10^6 pixels? Explain.

21. Higher Order Thinking In case of an emergency, the school has a calling list so that everyone is called in the least amount of time. Each of the first 3 people on the list calls another 3 people on the list. Then, each of the people in the second group calls another 3 people on the list, and so on. The fifth group of people will make 243 calls. Is this statement accurate? Explain.

22. Use Structure An investment of $1 was put in an account. Every 8 years, the money doubled. No additional money was added to the account. Would the expression $1 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$ correctly represent how much was in the investment account after 48 years? Explain. © MP.7

© **Assessment Practice**

23. Which expression is equal to 343?

Ⓐ 8^3

Ⓑ $6 \times 6 \times 6$

Ⓒ 7^3

Ⓓ $7 \times 7 \times 7 \times 7$

24. Which expression is **NOT** equal to 0.125?

Ⓐ 0.5^3

Ⓑ 0.5×3

Ⓒ $0.5 \times 0.5 \times 0.5$

Ⓓ 0.5×0.5^2