

Name: \_\_\_\_\_

Date: \_\_\_\_\_ Score: \_\_\_\_\_

## Patterns in Numbers - Using Exponents

Write in exponential form

1  $2 \times 2 \times 2 \times 2 \times 2 \times 2 =$  \_\_\_\_\_

2  $264 \times 264 =$  \_\_\_\_\_

3  $9 \times 9 \times 9 \times 9 =$  \_\_\_\_\_

4  $7 \times 7 \times 4 \times 4 =$  \_\_\_\_\_

Write in expanded form

5  $10^2 =$  \_\_\_\_\_

6  $6^4 =$  \_\_\_\_\_

7  $12^4 =$  \_\_\_\_\_

8  $7^3 =$  \_\_\_\_\_

Write in standard form

9  $10^7 =$  \_\_\_\_\_

10  $12^4 =$  \_\_\_\_\_

Compare and choose between  $<$ ,  $>$  or  $=$

11  $5^6 \bigcirc 5^8$

12  $5^8 \bigcirc 5^4$

13  $10^4 \bigcirc 4 \times 10$

14  $4^4 \bigcirc 4^4$

15  $8^3 \bigcirc 3^8$

16  $4^2 \bigcirc 2^4$

17  $8^2 \bigcirc 8 + 8 + 8 + 8$

18  $13^3 \bigcirc 13^2$

19  $2^8 \bigcirc 2^{10}$

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## Patterns in Numbers - Using Exponents

### Answers

1  $2 \times 2 \times 2 \times 2 \times 2 \times 2 = 2^6$

2  $264 \times 264 = 264^2$

3  $9 \times 9 \times 9 \times 9 = 9^4$

4  $7 \times 7 \times 4 \times 4 = 7^4 \times 4^2$

5  $10^2 = 10 \times 10$

6  $6^4 = 6 \times 6 \times 6 \times 6$

7  $12^4 = 12 \times 12 \times 12 \times 12$

8  $7^3 = 7 \times 7 \times 7$

9  $10^7 = 10,000,000$

10  $12^4 = 20,736$

11  $5^6 < 5^8$

12  $5^8 > 5^4$

13  $10^4 > 4 \times 10$

14  $4^4 = 4^4$

15  $8^3 < 3^8$

16  $4^2 = 2^4$

17  $8^2 > 8 + 8 + 8 + 8$

18  $13^3 > 13^2$

19  $2^8 < 2^{10}$