



2023-2024

## 5.0 Exponents Review

SCORE:

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Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

Simplify without using a calculator.

1.  $3^2 =$

2.  $5^{-2} =$

3.  $\frac{1}{6^{-3}} =$

4.  $\left(\frac{1}{5}\right)^3 =$

5.  $\left(\frac{1}{7}\right)^{-2} =$

6.  $3x^2 =$

7.  $(3x)^2 =$

8.  $x^4x^2 =$

9.  $\frac{x^5}{x^3} =$

10.  $64^{\frac{5}{3}} =$

11.  $\frac{1}{4^{\frac{3}{2}}} =$

12.  $(25)^{\frac{3}{2}} =$

13.  $(4x^2)(-2x^5)$

14.  $\frac{-20x^8}{4x^3}$

15.  $\left(\frac{x^4}{x^3}\right)^2$

16.  $7^{\frac{1}{2}}$

17.  $8^{\frac{2}{3}}$

18.  $27^{\frac{1}{3}}$

Solve each equation. Show your work. (Think about it and use logic to figure out what to do.)

19.  $7^2 = 7^x$

20.  $4^{-2x-2} = 4^{3x}$

21.  $3^{-2x} = 3$

22.  $5^{2x} = 5^{-2}$

23.  $\left(\frac{1}{4}\right)^{-2x-1} = \left(\frac{1}{4}\right)^2$

24.  $(3^5)^{-x+3} = 3^2$

25.  $81^{-x+3} = 81$

26.  $(2^3)^{(6+3x)} = 2^2$

27.  $2^{(6+3x)} = 4$