Name: _____ Period: _____ Date: _____

Unit 7 - Exponents and Exponential Functions Test

Simplify the following expressions.

1. $ab^2 \cdot a^3b^2$

2. $(xy^2)^3$

3. $a(ab^3c)^0$

4. $(2x)^2(x^2)$

5. $\frac{4x^3y^2}{2xy} =$

6. $\left(\frac{2a^3}{b}\right)^2$

7. $(3g)(2g^{-2})$

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

9. $(3x)(4x)^0(5x)^{-1}$

10. $\left(\frac{6ab}{y}\right)\left(\frac{4y}{3a}\right)$

11. $2(3x)^{\frac{1}{2}}$

12. $\sqrt{48x^2y}$

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Unit 7 - Exponents and Exponential Functions Test

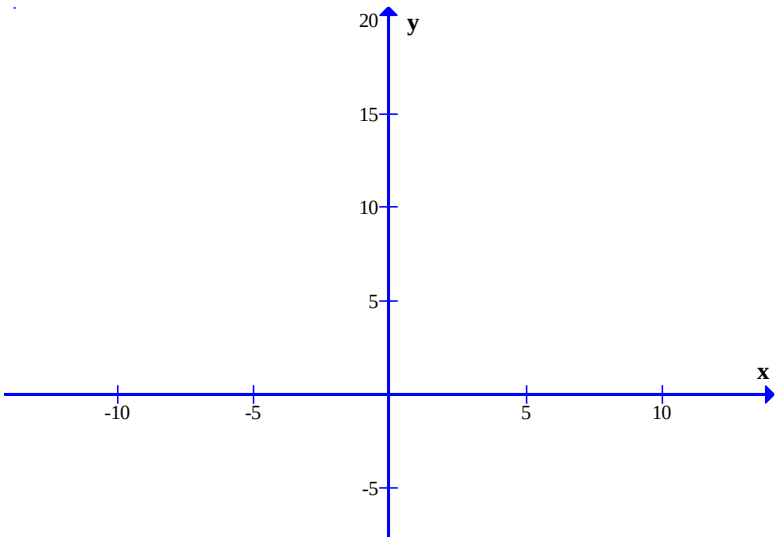
13. $\sqrt{\frac{3}{16x^4}}$

14. $\sqrt[8]{16}$

15. Find f(x) given the value of x for the function $y = \left(\frac{1}{4}\right)^{2x}$.

X	-1	0	1
y			

16. Draw the graph of $y = \left(\frac{1}{4}\right)^{2x}$.



17. A garden pool contains 450 gallons of water. The water in the pool is reducing by 20% every hour using a pipe to drain the water. How much water will be left after 3 hours?

Unit 7 - Exponents and Exponential Functions Test

18. $5000 is invested in a bank at 8% for 5 years compounded semi-annually. What will be the final amount of the money after 5 years?

19. Find the 7th term of a geometric sequence given the first element is 7 and the common ratio is 3.

20. Find the sum of the first 5 terms of a geometric sequence given the first element is 3 and the common ratio of 4.