

Name:

Date:

Topic:

Class:

Main Ideas/Questions	Notes/Examples		
<b>POWERS OF MONOMIALS</b>	To raise a monomial to a power, use the <b>POWER RULE</b> : $(x^a)^b =$		
<b>NUMERICAL BASES</b>	<b>Directions:</b> Simplify. Express your final answers using only positive exponents.		
	1. $(8^2)^5$	2. $((-15)^6)^3$	3. $(4^{-2})^2$
	4. $(2^4)^{-2}$	5. $(10^{-3})^{-7}$	6. $(3^3)^{-1}$
<b>VARIABLE BASES</b>	7. $(x^9)^3$	8. $(a^2)^7$	9. $(k^4)^{-5}$
	10. $(cd^2)^4$	11. $(m^{-2}n^8)^3$	12. $(x^{-4}y^{-2})^{-7}$
	<b>➤ Examples with Coefficients:</b> <ul style="list-style-type: none"><li>• Raise the coefficient to the given power.</li><li>• SIMPLIFY the variables with the power rule.</li></ul>		
	13. $(3x^7)^2$	14. $(5n^4)^3$	
	15. $(10x^7)^2$	16. $(4w^{-7})^4$	

	<b>17.</b> $(2p^2q^5)^6$	<b>18.</b> $(-7a^8b^3)^2$
	<b>19.</b> $(4c^{-9}d^2)^2$	<b>20.</b> $(-3m^{-2}n^{-5})^3$
	<b>21.</b> $(5k^6)^{-2}$	<b>22.</b> $(2a^5b^{-2})^{-4}$
<b>MIXED PRACTICE</b>	<b>23.</b> $(6w^8)^2 \cdot 5w^3$	<b>24.</b> $(-4a^2)^3 \cdot 2a^7$
	<b>25.</b> $(5p^4 \cdot 3p^3)^2$	<b>26.</b> $(x^{-8}y^{-2} \cdot x^3y^9)^4$
	<b>27.</b> $\frac{56k^{28}}{(-2k^8)^3}$	<b>28.</b> $\frac{(12c^3d^7)^2}{18c^8d^{10}}$
	<b>29.</b> $40m^6n^{21} + (-4m^2n^7)^3$	<b>30.</b> $(4a^8b^2)^3 - (3a^{12}b^3)^2$

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

Unit 2: Algebraic Expressions



Date: \_\_\_\_\_ Per: \_\_\_\_\_

Homework 7: Powers of Monomials

**Directions:** Simplify the following monomials. Express final answers using only positive exponents.

1.  $(5^4)^3$

2.  $((-8)^2)^9$

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

4.  $(m^9)^4$

5.  $(k^{-5})^2$

6.  $(r^2 s^{-1})^{-6}$

7.  $(10x^7)^2$

8.  $(-3n^5)^3$

9.  $(2v^{-6})^5$

10.  $(4c^2 d^7)^4$

11.  $(-6p^5 q^{-8})^4$

12.  $(5a^{-1} b^{-4})^{-3}$

13.  $(2v^8)^3 \cdot -7v^5$

14.  $\frac{3}{4}x^{10} \cdot (8x^3)^2$

15.  $(-3m^{10} \cdot 4m^{-6})^2$

16.  $(c^3 d^{-1} \cdot cd^{-7})^{-2}$

17.  $\frac{(-4h^9)^2}{24h^4}$

18.  $\frac{27r^9 s^{15}}{(3r^2 s^5)^4}$

19.  $(7p^8 q^3)^3 - 132p^{24} q^9$

20.  $(-8x^9 y^6)^2 + (4x^6 y^4)^3$