

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

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

Math 9  
Mrs. van der Vossen

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## Exponents 3.2 Practice

1. Identify the base and the exponent in each power. Then prove using repeated multiplication if  $(-3)^4$  is the same as  $-3^4$ . (2 marks)

2. Write each power as repeated multiplication, then as a single power. (1 mark each)

	Repeated Multiplication	Single Power	Evaluate
$7^5 \times 7^4$			
$[(-4)^3]^2$			
$10^8 \div 10^2$			
$(-6)^2 \div (-6)^5$			
$\left(\frac{1}{5^2}\right)^4$			
$\frac{(-5)^4}{(-5)^4}$			

3. Write each expression as the power shown by the repeated multiplication, then evaluate. (1 mark each)

	<b>Powers (AS SHOWN)</b>	<b>Evaluate</b>
$(4 \times 4 \times 4) \times (4 \times 4 \times 4 \times 4)$		
$\frac{2 \times 2 \times 2 \times 2 \times 2}{2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2}$		
$\begin{array}{c} (-5)(-5)(-5) \times (-5)(-5)(-5) \\ \times (-5)(-5)(-5) \end{array}$		

4. Write each expression as a single power, then evaluate. (1 mark each)

	<b>Single Power</b>	<b>Evaluate</b>
$8^3 \times 8 \times 8^2$		
$\frac{(-4)^2(-4)^4}{(-4)^7}$		

5. Prove how any base to the power of zero is equal to one using an example containing repeated multiplication. (1 mark)

6. Jesse was asked to complete the following question: (1 mark)  
Listed below is his answer. Is he correct? If not find and correct his mistake.

$$\begin{array}{l} (16 \div 4)^4 - (5 + 3)^2 \\ (4)^4 - (8)^2 \\ 256 - 16 \\ \boxed{240} \end{array}$$