Name: _____ Date: _____

BLM 3–7

Target B-2 Extra Practice

1. Write each expression as a single power. Then, evaluate.

	Single Power	Evaluate
a) $2^4 \times 2^4$	_____	_____
b) $(-4)^2 \times (-4)^2$	_____	_____
c) $6^2 \times 6$	_____	_____
d) $9^3 \times 9^3$	_____	_____

2. Write each expression as a product of two powers, then as a single power.

	Product of Two Powers	Single Power
a) $(3 \times 3 \times 3 \times 3)(3 \times 3)$	_____	_____
b) $(5 \times 5 \times 5 \times 5)(5 \times 5 \times 5 \times 5 \times 5 \times 5)$	_____	_____
c) $(8 \times 8 \times 8 \times 8 \times 8 \times 8)(8 \times 8 \times 8 \times 8 \times 8)$	_____	_____
d) $(11 \times 11 \times 11)(11 \times 11)$	_____	_____

3. Write each expression as a single power. Then, evaluate.

	Single Power	Evaluate
a) $3^4 \div 3^2$	_____	_____
b) $(-5)^3 \times (-5)^2$	_____	_____
c) $\left[(-2)^2\right]^3$	_____	_____
d) $8^2 \div 8^2$	_____	_____

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(continued)

4. Write each expression as a quotient of two powers, then as a single power.

	Quotient of Two Powers	Single Power
a) $(5 \times 5 \times 5 \times 5) \div (5 \times 5)$	_____	_____
b) $(7 \times 7 \times 7) \div (7 \times 7 \times 7)$	_____	_____
c) $\frac{8 \times 8 \times 8 \times 8 \times 8 \times 8 \times 8}{8 \times 8 \times 8 \times 8}$	_____	_____
d) $\frac{(2 \times 2 \times 2 \times 2 \times 2 \times 2)}{(2 \times 2 \times 2 \times 2 \times 2)}$	_____	_____

5. Complete the table.

Expression	Repeated Multiplication	Two Powers
a) $\left[3 \times (-4)\right]^2$		$3^2 \times (-4)^2$
b) $(4 \times 6)^2$	$4 \times 4 \times 6 \times 6$	
c) $\left(\frac{2}{3}\right)^5$		

6. Does $-8^2 = (-8)^2$? Justify your answer.

_____

_____

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Extra Practice Answers

1. a) 2^8, 256 **b)** $(-4)^4$, 256 **c)** 6^3, 216
d) 9^6, 531 441

2. a) $3^4 \times 3^2$, 3^6 **b)** $5^4 \times 5^6$, 5^{10}
c) $8^6 \times 8^5$, 8^{11} **d)** $11^3 \times 11^2$, 11^5

3. a) 3^2, 9 **b)** $(-5)^5$, -3125
c) $(-2)^6$, 64 **d)** 8^0, 1

4. a) $5^4 \div 5^2$, 5^2 **b)** $7^3 \div 7^3$, 7^0
c) $\frac{8^7}{8^4}$, 8^3 **d)** $\frac{2^6}{2^5}$, 2^1

5.

Repeated Multiplication	Two Powers
a) $3 \times 3 \times (-4) \times (-4)$	$3^2 \times (-4)^2$
b) $4 \times 4 \times 6 \times 6$	$4^2 \times 6^2$
c) $\frac{2}{3} \times \frac{2}{3} \times \frac{2}{3} \times \frac{2}{3} \times \frac{2}{3}$	$\frac{2^5}{3^5}$

6. No. $-8^2 = -(8 \times 8) = -64$; $(-8)^2 = (-8) \times (-8) = 64$