Worksheet 3.1 and 3.2

1. Identify the base and the exponent in each repeated multiplication. Then, write the following expression as a power (ex: 8^3) and evaluate.
   (1 mark each)

	Base	Exponent	Power	Evaluate
a) $4 \times 4 \times 4$	_____	_____	_____	_____
b) $9 \times 9 \times 9 \times 9 \times 9$	_____	_____	_____	_____
c) $(-2) \times (-2) \times (-2) \times (-2)$	_____	_____	_____	_____
d) $-2 \times 2 \times 2 \times 2$	_____	_____	_____	_____
e) $(-5) \times (-5) \times (-5) \times (-5) \times (-5)$	_____	_____	_____	_____
f) $-5 \times 5 \times 5 \times 5 \times 5$	_____	_____	_____	_____
g) $d \times d \times d \times d \times d \times d$	_____	_____	_____	

2. Write each power as repeated multiplication. Then, evaluate.
(1 mark each)

	Repeated Multiplication	Evaluate
a) 7^3	_____	_____
b) $(-3)^5$	_____	_____
c) -3^5	_____	_____
d) $(-10)^6$	_____	_____
e) -10^6	_____	_____
f) $(5m)^8$	_____	_____
g) $(15cm)^3$	_____	_____

3. Write each expression as repeated multiplication, a single power, then evaluate. (1 mark each)

	Repeated Multiplication	Single Power	Evaluate
a) $3^2 \times 3^4$	_____	_____	_____
b) $(-2)^3 \times (-2)^2$	_____	_____	_____
c) $10^3 \div 10^2$	_____	_____	_____
d) $12^3 \times 12$	_____	_____	_____
e) $(-4)^8 \div (-4)^6$	_____	_____	_____
f) $5^4 \div 5^4$	_____	_____	_____
g) $7^3 \div 7^5$	_____	_____	_____
h) $5^3 \div 5^6$	_____	_____	_____

4. Use the "rules" for multiplying or dividing powers that have the same base to make the questions below into a single power. Then, evaluate.

	Single Power	Evaluate
a) $13^2 \times 13^3$	_____	_____
b) $(-2)^5 \times (-2)^4$	_____	_____
c) $7^3 \div 7^2$	_____	_____
d) $(-4)^6 \div (-4)^2$	_____	_____
e) $4^2 \div 4^2$	_____	_____

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   (1 mark each)

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d) $-2 \times 2 \times 2 \times 2$	_____	_____	_____	_____
e) $(-5) \times (-5) \times (-5) \times (-5) \times (-5)$	_____	_____	_____	_____
f) $-5 \times 5 \times 5 \times 5 \times 5$	_____	_____	_____	_____
g) $d \times d \times d \times d \times d \times d$	_____	_____	_____	

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