Section 3.1 Extra Practice

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

	Power	Evaluate
a) 6 × 6		
b) 4 × 4 × 4		
c) $9 \times 9 \times 9 \times 9 \times 9$		
d) 2 × 2 × 2 × 2 × 2 × 2		

2. Write each expression as a power. Identify the base and the exponent in each power. Then, evaluate.

power: men, evaluate.	Power	Base	Exponent	Evaluate
a) 5 × 5 × 5				
b) 1 × 1 × 1 × 1 × 1 × 1 ×	< 1			
c) 7 × 7 × 7 × 7 × 7× 7				
d) 305				

3. Write each power as repeated multiplication. Then, evaluate.

	Repeated Multiplication	Evaluate
a) 6 ³		
a) 6 ³ b) 2 ⁵ c) 3 ⁴ d) 10 ⁶ e) 4 ² f) 20 ²		
c) 3 ⁴		
d) 10^6		
e) 4 ²		
f) 20^2		

4. Write each power as repeated multiplication. Then, evaluate.

	Repeated Multiplication	Evaluate
a) $(-2)^4$		
b) -2 ⁴		
c) $(-4)^3$		
d) -4^3		
e) $-(-6)^3$		
f) $-(-6)^4$		

5. Complete the table.

Repeated Multiplication	Exponential Form	Value
a) $(-3) \times (-3) \times (-3) \times (-3)$		
b) (-2) × (-2) × (-2) × (-2)		
c)	(-6) ⁵	
d)		-125

- **6.** Bacteria reproduce by splitting in two. If a single bacteria divides every 20 min, how many bacteria will a single bacteria produce after 8 h?
 - a) Write the answer in exponential form.
 - **b)** Calculate the answer. _____
 - c) What assumption did you make to answer the question?