Exponents and Place Value

1. Complete the table.

Exponential Expression	Expanded Form	Standard Form
10^0	none	1
10^1	10	10
10^2	10×10	
10^3		
10^4		
10^5		
10^6		

2. Reasoning Compare the exponents to the number of zeros in each number when written in standard form. What do you notice?

3. Write 7,245,000 in expanded form with exponents by filling in the blanks.

7,245,000

$= 7,000,000$ $+$ _____ $+$ _____ $+$ _____

$= (7 \times 1,000,000)$ $+$ _____ $+$ _____ $+$ _____

$= (7 \times 10^6)$ $+$ _____ $+$ _____ $+$ _____

4. Write 4,507,298 in expanded form three ways.

4,000,000 $+$

$(4 \times 1,000,000) +$

$(4 \times 10^6) +$

Exponents and Place Value (continued)

Write each number in expanded form three ways.

5. 65,784

6. 3,170,245

7. 725,418

8. A library has eight million, two hundred twenty-three thousand, twelve books. Write this number in expanded form using exponents.

9. Reasoning How can you tell what exponent to use with the 6 when writing 2,682,943 in expanded form with exponents?