

SOL 7.1a—Negative Exponents for Powers of Ten

For questions 1-3, change from standard form to scientific notation.

1) $\frac{1}{10^3}$ _____

2) $\frac{1}{10000}$ _____

3) 0.0000487 _____

4) Write 10^{-5} as a fraction and a decimal. _____ & _____

5) In your own words, explain what negative exponents for powers of 10 represent.

6) Lori needs a wire which has a width of 0.095 m to repair her computer. How could she express the wire’s width as a power of ten?



7) Jason is preparing salsa dip from a recipe which includes 10^{-2} grams of cayenne pepper. His food scale requires decimal measures. What decimal amount of cayenne pepper will Jason need for the recipe?



8) Complete the following table.

Exponent	Fraction	Decimal
		1
10^{-1}		
	$\frac{1}{100}$	
		0.001
10^{-4}		
		0.00001

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Answer Key

1. 10^{-3}
2. 10^{-4}
3. $4,87 \times 10^{-5}$
4. $\frac{1}{100000}$; 0.00001
5. Negative exponents for powers of 10 represent numbers between 0 and 1.
6. 9.5×10^{-2}
7. 0.01
- 8.

Exponent	Fraction	Decimal
10^0	1	1
10^{-1}	$\frac{1}{10}$	0.1
10^{-2}	$\frac{1}{100}$	0.01
10^{-3}	$\frac{1}{1000}$	0.001
10^{-4}	$\frac{1}{10000}$	0.0001
10^{-5}	$\frac{1}{100000}$	0.00001