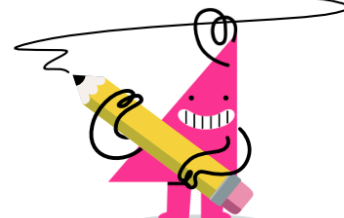




Logarithmic Scales - Magnitude to Measured Value (Number)



<p>1</p> <p>What is the hydrogen ion concentration of a solution with a pH of 8 on the pH scale?</p> <p>$\text{pH} = -\log [\text{H}^+]$ $\text{pH} = 8$</p> <p>A $[\text{H}^+] = 1 \times 10^{-8} \text{ mL/mol}$</p> <p>B $[\text{H}^+] = 3.16 \times 10^{-7} \text{ mL/mol}$</p>	<p>2</p> <p>What is the hydrogen ion concentration of a solution with a pH of 6 on the pH scale?</p> <p>$\text{pH} = -\log [\text{H}^+]$ $\text{pH} = 6$</p> <p>A $[\text{H}^+] = 3.16 \times 10^{-5} \text{ mL/mol}$</p> <p>B $[\text{H}^+] = 1 \times 10^{-6} \text{ mL/mol}$</p>
<p>3</p> <p>What is the hydrogen ion concentration of a solution with a pH of 9 on the pH scale?</p> <p>$\text{pH} = -\log [\text{H}^+]$ $\text{pH} = 9$</p> <p>A $[\text{H}^+] = 1 \times 10^{-9} \text{ mL/mol}$</p> <p>B $[\text{H}^+] = 1 \times 10^{-8} \text{ mL/mol}$</p>	<p>4</p> <p>What is the hydrogen ion concentration of a solution with a pH of 1 on the pH scale?</p> <p>$\text{pH} = -\log [\text{H}^+]$ $\text{pH} = 1$</p> <p>A $[\text{H}^+] = 0.1 \text{ mL/mol}$</p> <p>B $[\text{H}^+] = 0.001 \text{ mL/mol}$</p>
<p>5</p> <p>What is the sound intensity of a sound with a sound intensity of 20 dB on the decibel scale?</p> <p>$\text{dB} = 10 \log \left(\frac{I}{I_0} \right)$ $I_0 = 10^{-12} \text{ W/m}^2$ $\beta = 20 \text{ dB}$</p> <p>A $I = 1 \times 10^{-8} \text{ W/m}^2$</p> <p>B $I = 1 \times 10^{-10} \text{ W/m}^2$</p>	<p>6</p> <p>What is the sound intensity of a sound with a sound intensity of 60 dB on the decibel scale?</p> <p>$\text{dB} = 10 \log \left(\frac{I}{I_0} \right)$ $I_0 = 10^{-12} \text{ W/m}^2$ $\beta = 60 \text{ dB}$</p> <p>A $I = 1 \times 10^{-6} \text{ W/m}^2$</p> <p>B $I = 1 \times 10^{-5} \text{ W/m}^2$</p>
<p>7</p> <p>What is the wave height of an earthquake with a magnitude of 3 on the Richter scale?</p> <p>$M = \log \left(\frac{I}{I_0} \right)$ $I_0 = 1 \mu\text{m}$ $M = 3$</p> <p>A $I = 10 \mu\text{m}$</p> <p>B $I = 1,000 \mu\text{m}$</p>	<p>8</p> <p>What is the sound intensity of a sound with a sound intensity of 80 dB on the decibel scale?</p> <p>$\text{dB} = 10 \log \left(\frac{I}{I_0} \right)$ $I_0 = 10^{-12} \text{ W/m}^2$ $\beta = 80 \text{ dB}$</p> <p>A $I = 0.0001 \text{ W/m}^2$</p> <p>B $I = 0.01 \text{ W/m}^2$</p>