

Approximating a Large Number

Ex:) Round the volume of water on Earth. Write the result as the product of a single digit and a power of 10.

Notes:



Earth contains about 332,500,000 cubic miles of water. The blue sphere represents all of the water on Earth, relative to the size of the planet.

OYO:) Round the number. Write the result as the product of a single digit and a power of 10.
98,247,836,218

Approximating a Small Number

Ex:) A blood vessel has a diameter of 0.0000924 meter. Round the diameter of the blood vessel. Write the result as the product of a single digit and a power of 10.

Notes:

OYO:) Write the result as the product of a single digit and a power of 10.
0.000384509

Notes:

Approximating a Quantity

Ex:) The distance from Saturn to Neptune is about 1,911,674,960 miles. The distance from Mercury to Neptune is about 1.5 times this distance. What is the approximate distance from Mercury to Neptune?

- A. 2×10^9 miles B. 3×10^9 miles
C. 2×10^{10} miles D. 3×10^{10} miles

Notes:

Common Error

When multiplying 1.5 and (2×10^9) , make sure you only multiply 1.5 by one of the factors in the parentheses.

OYO:) Lake A has a volume of 21,150,247,000 cubic meters. Lake B has a volume that is 2.5 times the volume of Lake A. What is the approximate volume of Lake B?

Notes:

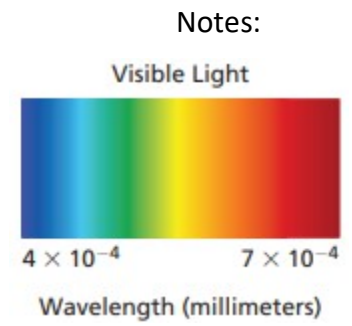
Modeling Real Life

Ex:) The population of the Philippines is about 104,260,000 and the population of India is about 1,282,000,000. Approximately how many times greater is the population of India than the population of the Philippines?

Notes:

OYO:) A physicist observes a gamma ray with a wavelength of 0.00000000135 millimeter and an X-ray with a wavelength of 0.00000012 millimeter.

A. About how many times shorter is the wavelength of the gamma ray than the wavelength of the X-ray?



B. The diagram shows wavelengths of visible light. Which ray has a wavelength closer to the wavelength of dark blue light?

