

Answer Key to Wave Math

1. 6.165×10^{14} Hz
2. 3.08 m
3. 5.6×10^2 to 1.8×10^2 meters
4. a) 1510 kHz b) 1.51 mHz
5. 1.0×10^{-13} m
6. 85.7 m – 10.1 m. It is called short wave because the wavelengths are shorter than those in the AM radio band
7. 3×10^5 Hz
8. 5.4×10^{14} Hz
9. 2.4×10^{15} Hz
10. 410 nm, violet portion of visible light
11. 4.0×10^{-7} to 3.0×10^{-7}
12. 1×10^{-6} m
13. 3.015 m
14. 9.1 mm
15. While light travels fast, it is not instantaneous. Therefore the light we see from distant galaxies was produced in the past. How far in the past depends on the distance.