“Answer on Question #59923, Chemistry / General Chemistry”

1. 3.00 x 10^8 m/s divided 227.3 m

2. 325000 J divided (25.0 m/s)^2

Solution

1. [3.00 ˣ 10^8] / 227.3 = 0.013198 ˣ 10^8 = 1.32 ˣ 10^6 (Hz) = 1.32 (MHz)

1(m/s) / 1m = (1/s) = 1Hz – hertz

1 MHz = 1ˣ10^6 Hz

2. 325000 / (25.0)^2 = 325000 / 625 = 52 (kg)
1J / 1(m/s)^2 = 1kg

$$\mathrm{J} = \frac{\mathrm{kg} \cdot \mathrm{m}^2}{\mathrm{s}^2}$$

Answer: 1) 1.32 MHz, 2) 52 kg.