Problem of the Week

Problem B

Bytes Rule!

Measurements depend critically on the units used. Here are some sample measures of length, and of computer memory.

a) When measuring length, the metric system uses different prefixes to go with the base unit, metres (m). Complete the table using the following metric prefixes:

centi (c), deca (da), deci (d), hecto (h), milli (m)

(Two rows of the chart are done for you.)

term	prefix	shortform	conversion from m
kilometre	kilo	km	$\times 1000$
			$\times 100$
			$\times 10$
metre		m	
			$\div 10$
			$\div 100$
			$\div 1000$

b) Computer memory also uses metric prefixes, but on a larger scale. The base unit for memory is a byte. Fill in the table using the prefixes.
mega (M), tera (T), giga (G).

term	prefix	shortform	conversion
			$\times 1\,000\,000\,000\,000$
			$\times 1\,000\,000\,000$
			$\times 1\,000\,000$
kilobyte	kilo	kB	$\times 1000$
byte		B	

c) What will happen as computer memory continues to expand? Do some research and fill in the table for the future of amounts of memory.

term	prefix	shortform	conversion
			$\times 1\,000\,000\,000\,000\,000\,000\,000$
			$\times 1\,000\,000\,000\,000\,000\,000$
			$\times 1\,000\,000\,000\,000\,000$
byte		b	