gridlocks – can you unlock the grid?

Gas laws 2

Before you answer the puzzles below fill in the table using:

+ 273 **x 100,000** **÷ 1,000,000**

Non SI units	SI unit	Conversion into SI units
atm	Pa	
°C	K	
cm³	m³	
dm³	m³	÷ 1000

Gridlock 1

Each row, column and 2 x 2 box contains the first four different pressures: 1, 4, 0.8 and 0.1 atm. Use your problem solving skills and the answers in the table above to fill in the blank boxes.

pressure in atm		pressure in Pa	
4			100,000
			0.1
80,000			
pressure in Pa		pressure in atm	

gridlocks – can you unlock the grid?

Gridlock 2

Each row, column and 2 x 2 box contains the bottom four different volumes.

volume in cm^3		volume in m^3	
25			1×10^{-4}
	1.5×10^{-4}		40
volume in m^3		volume in cm^3	

Gridlock 3

Each row, column and 2 x 2 box contains four different temperatures, 25, 40 10 and 100 °C.

temperature in °C		temperature in K	
40			
		283	
		25	
	373		
temperature in K		temperature in °C	

gridlocks – can you unlock the grid?

Gas laws 2 – answers

Non SI units	SI unit	Conversion into SI units
atm	Pa	**x 100,000**
°C	K	**+ 273**
cm^3	m^3	**÷ 1,000,000**
dm^3	m^3	÷ 1000

Gridlock 1 – answers

pressure in atm		pressure in Pa	
4	0.8	10,000	100,000
0.1	1	400,000	80,000
100,000	400,000	0.8	0.1
80,000	10,000	1	4
pressure in Pa		pressure in atm	

gridlocks – can you unlock the grid?

Gridlock 2 – answers

volume in cm^3		volume in m^3	
25	40	1.5×10^{-4}	1×10^{-4}
150	100	4×10^{-5}	2.5×10^{-5}
1×10^{-4}	1.5×10^{-4}	25	40
4×10^{-5}	2.5×10^{-5}	100	150
volume in m^3		volume in cm^3	

Gridlock 3 – answers

temperature in °C		temperature in K	
40	10	373	298
100	25	283	313
283	313	25	100
298	373	40	10
temperature in K		temperature in °C	