

An initial organization of some concepts  
defined within the VIM  
(International Vocabulary of Metrology)

By

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v1.0

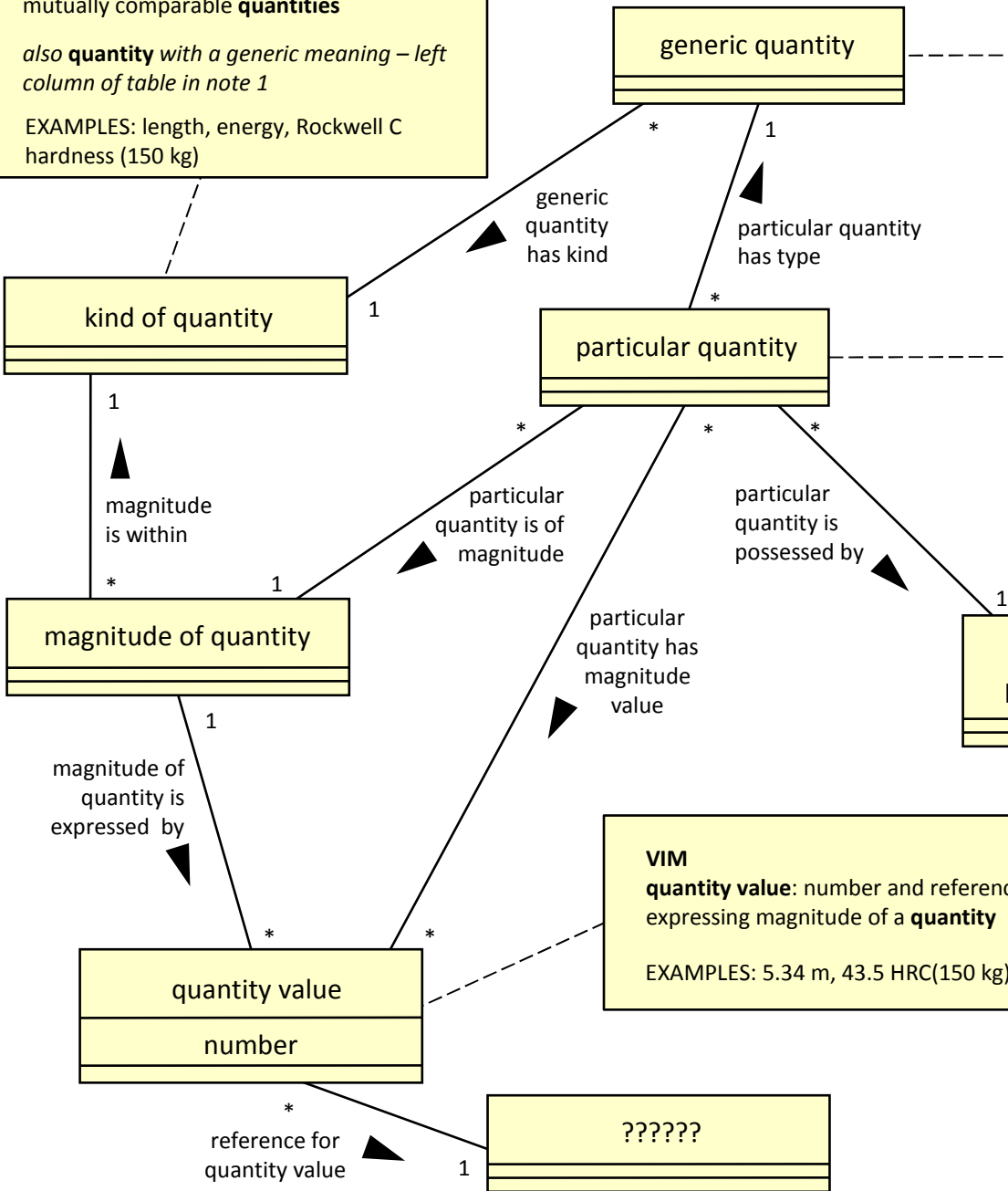
**VIM**  
**kind of quantity:** aspect common to mutually comparable **quantities**  
*also quantity with a generic meaning – left column of table in note 1*  
 EXAMPLES: length, energy, Rockwell C hardness (150 kg)

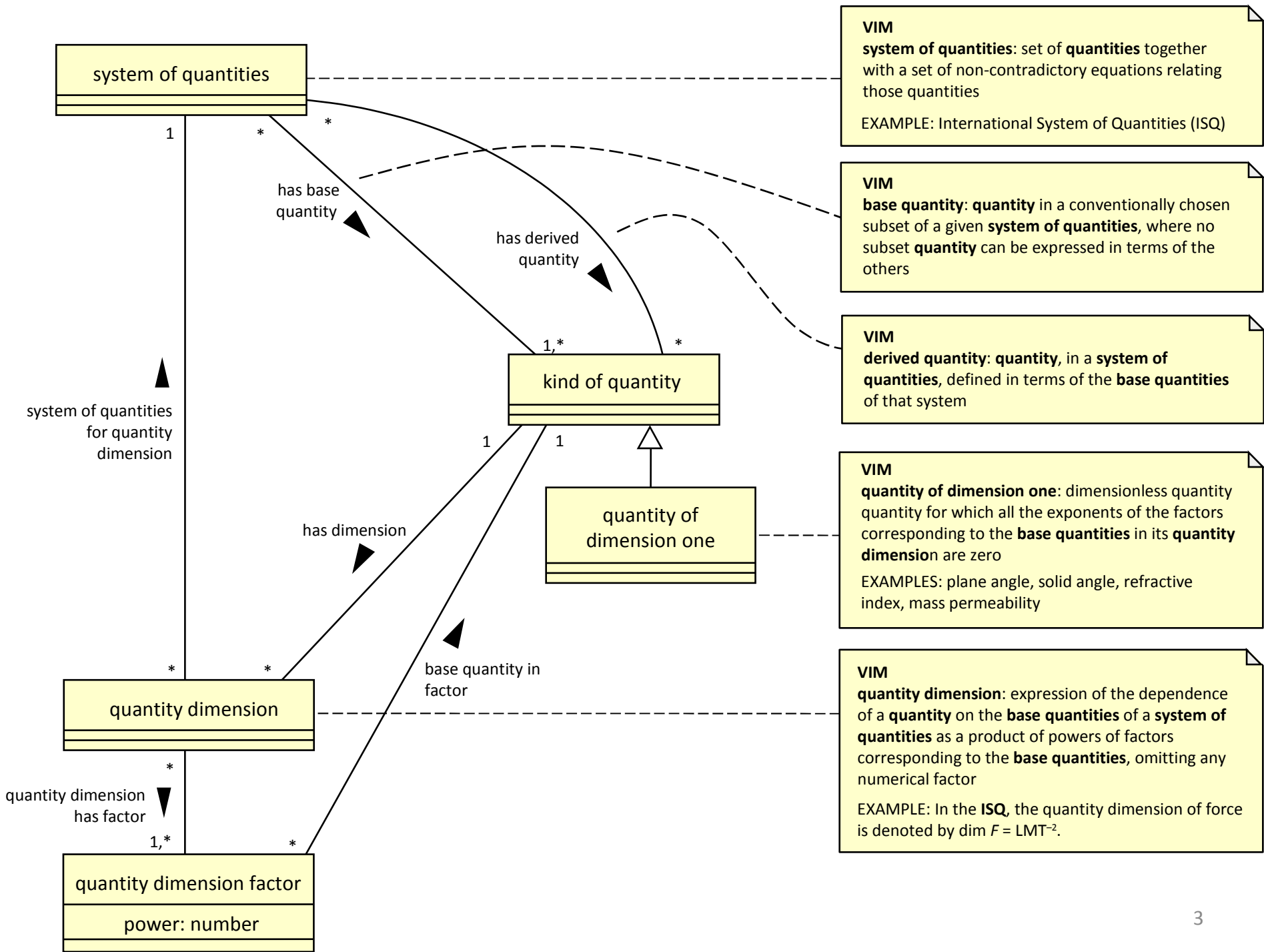
**VIM**  
**quantity:** property of a phenomenon, body, or substance, where the property has a magnitude that can be expressed as a number and a reference  
*with a generic meaning – middle/left column of table in note 1*  
 EXAMPLES: radius, Rockwell C hardness (150 kg)

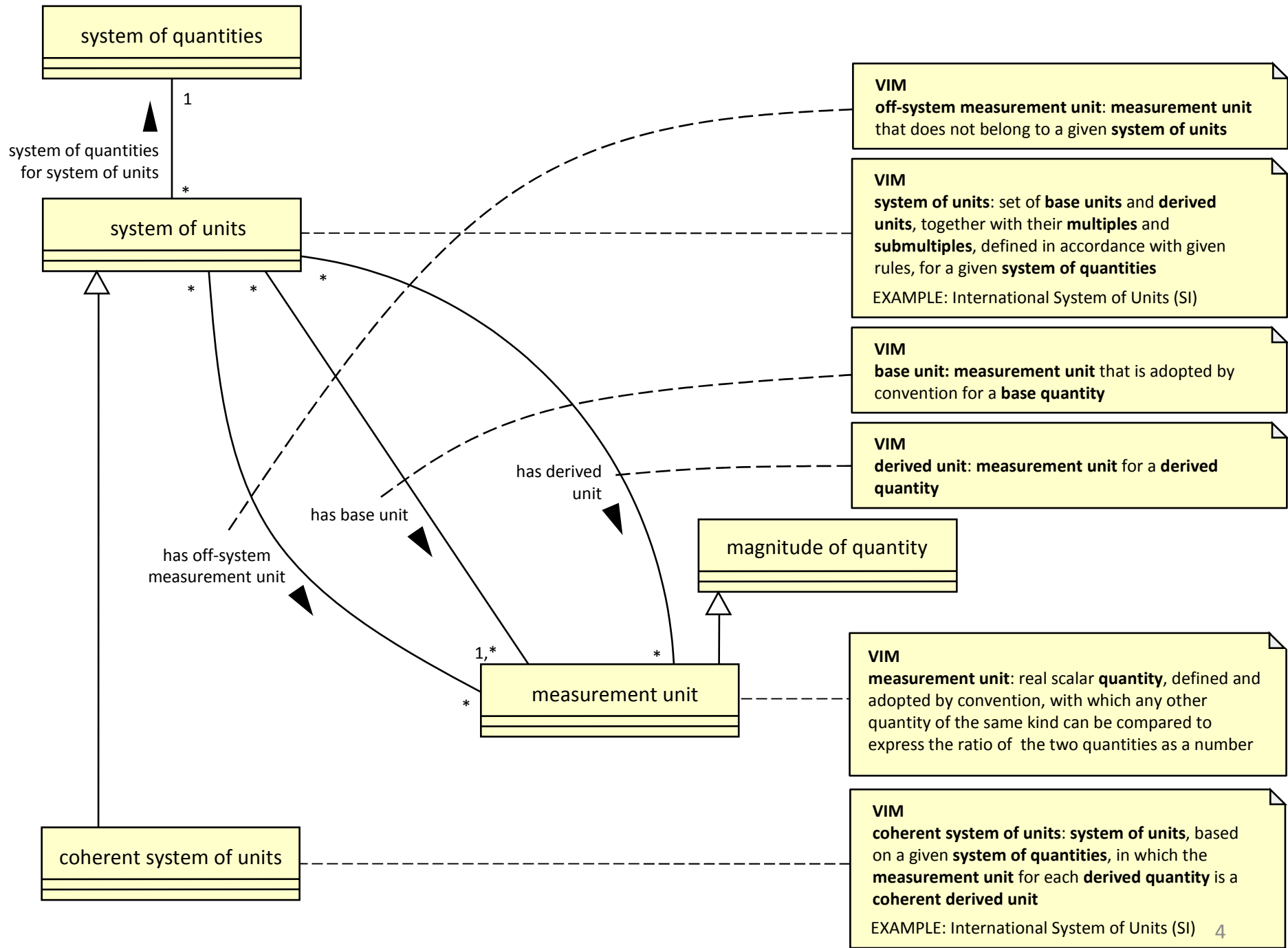
**VIM**  
**quantity:** property of a phenomenon, body, or substance, where the property has a magnitude that can be expressed as a number and a reference  
*meaning a particular “trope” – right hand column of table in note 1*  
 EXAMPLES: radius of circle A, energy of particle i , Rockwell C hardness (150 kg) of steel sample i

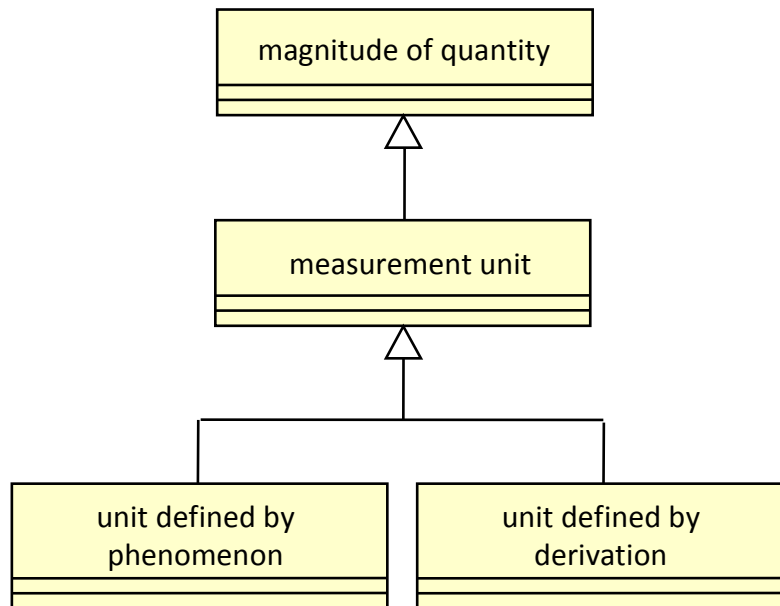
individual physical object  
 EXAMPLES: circle A, particle i , steel sample i

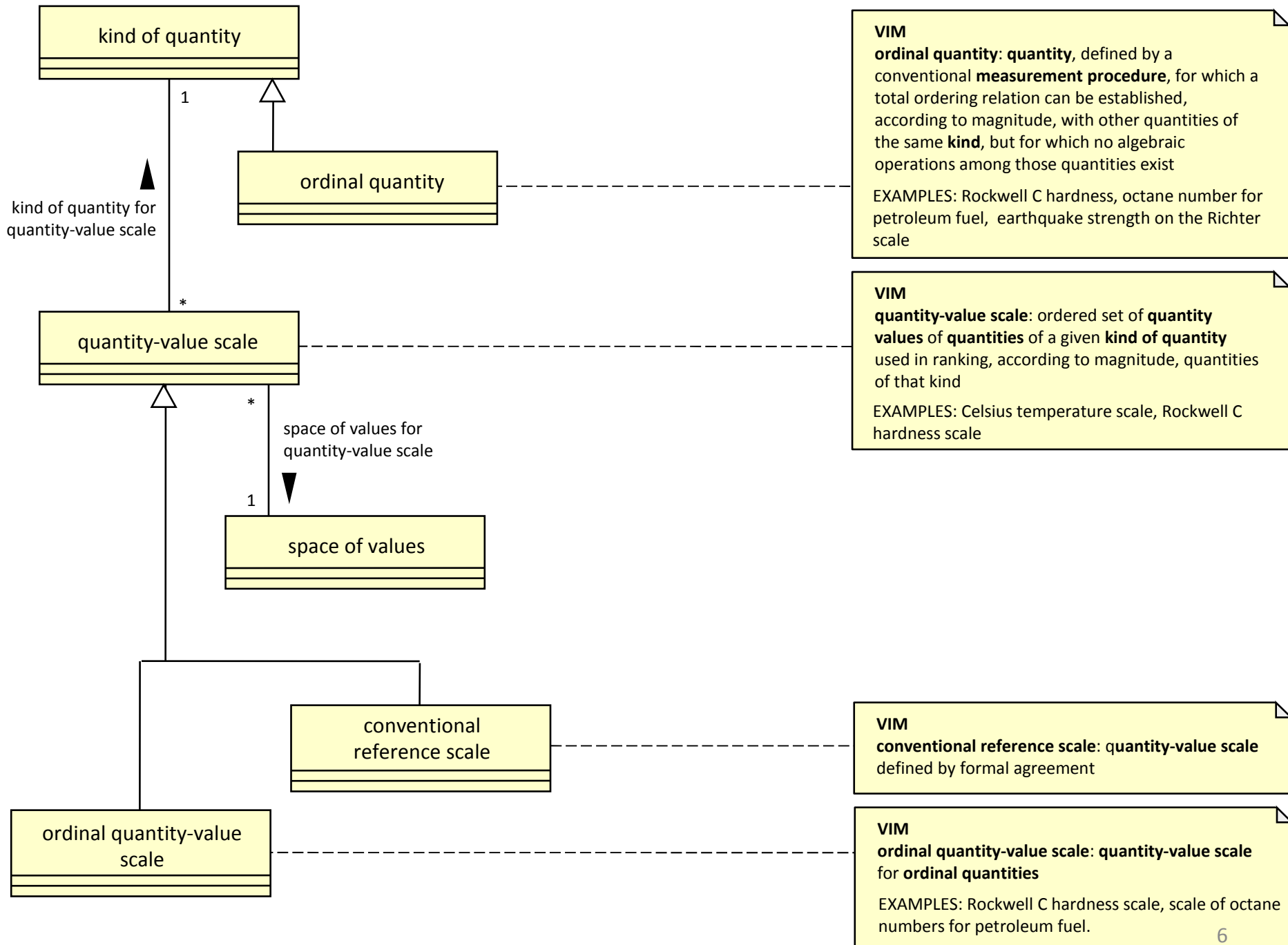
**VIM**  
**quantity value:** number and reference together expressing magnitude of a **quantity**  
 EXAMPLES: 5.34 m, 43.5 HRC(150 kg)

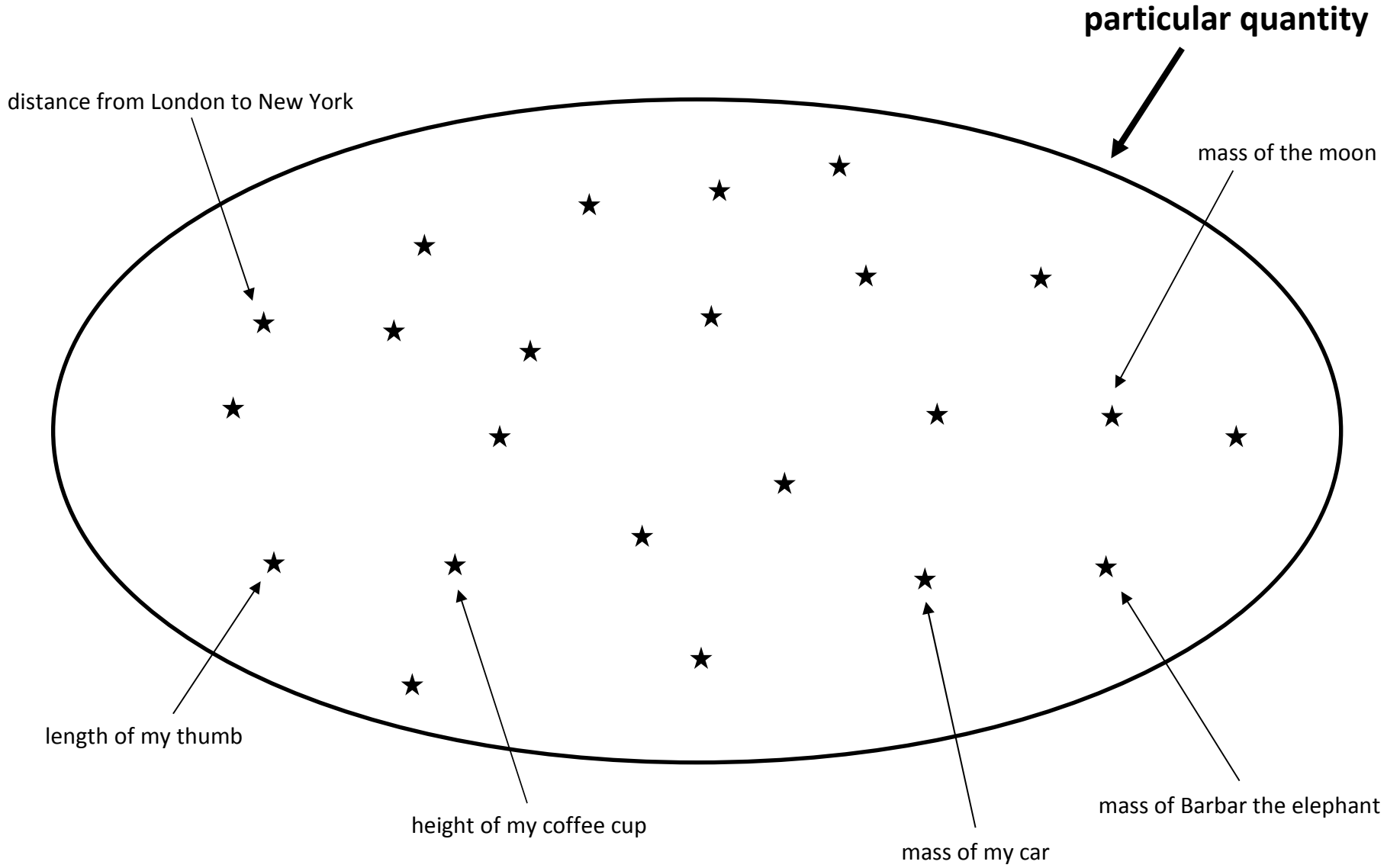


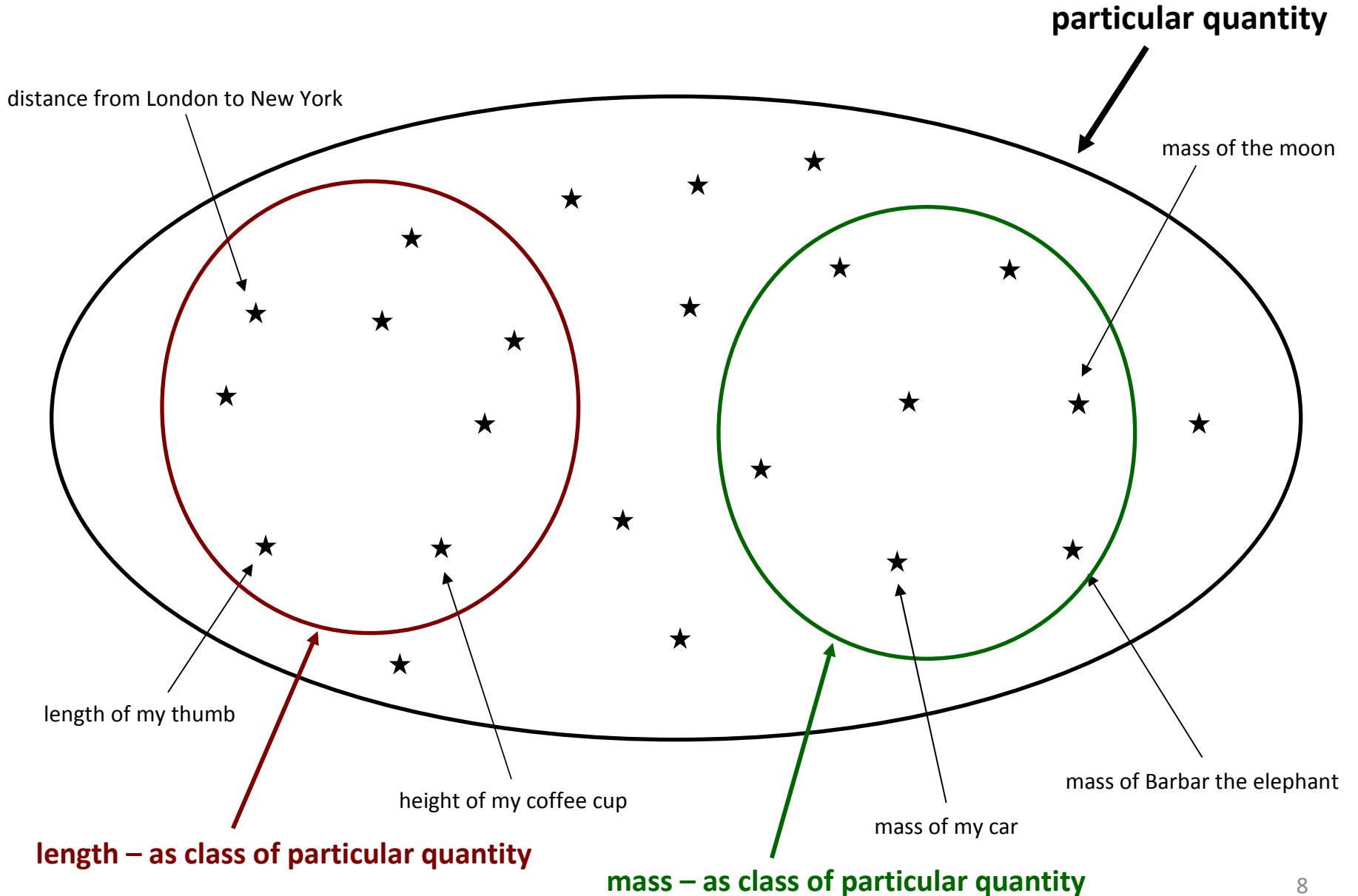






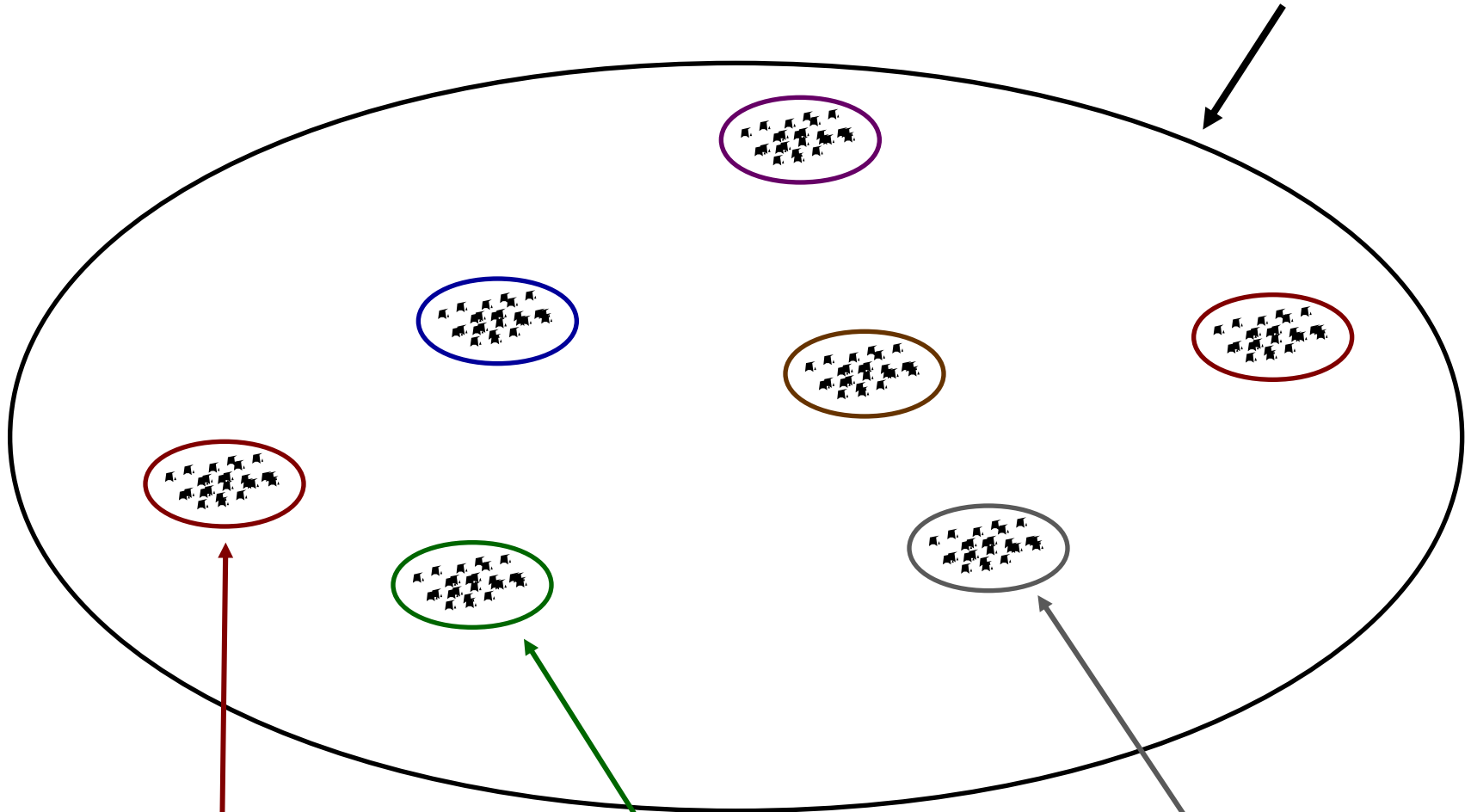








kind of quantity – as class of particular quantity



length – as class of particular quantity

mass – as class of particular quantity

energy – as class of particular quantity

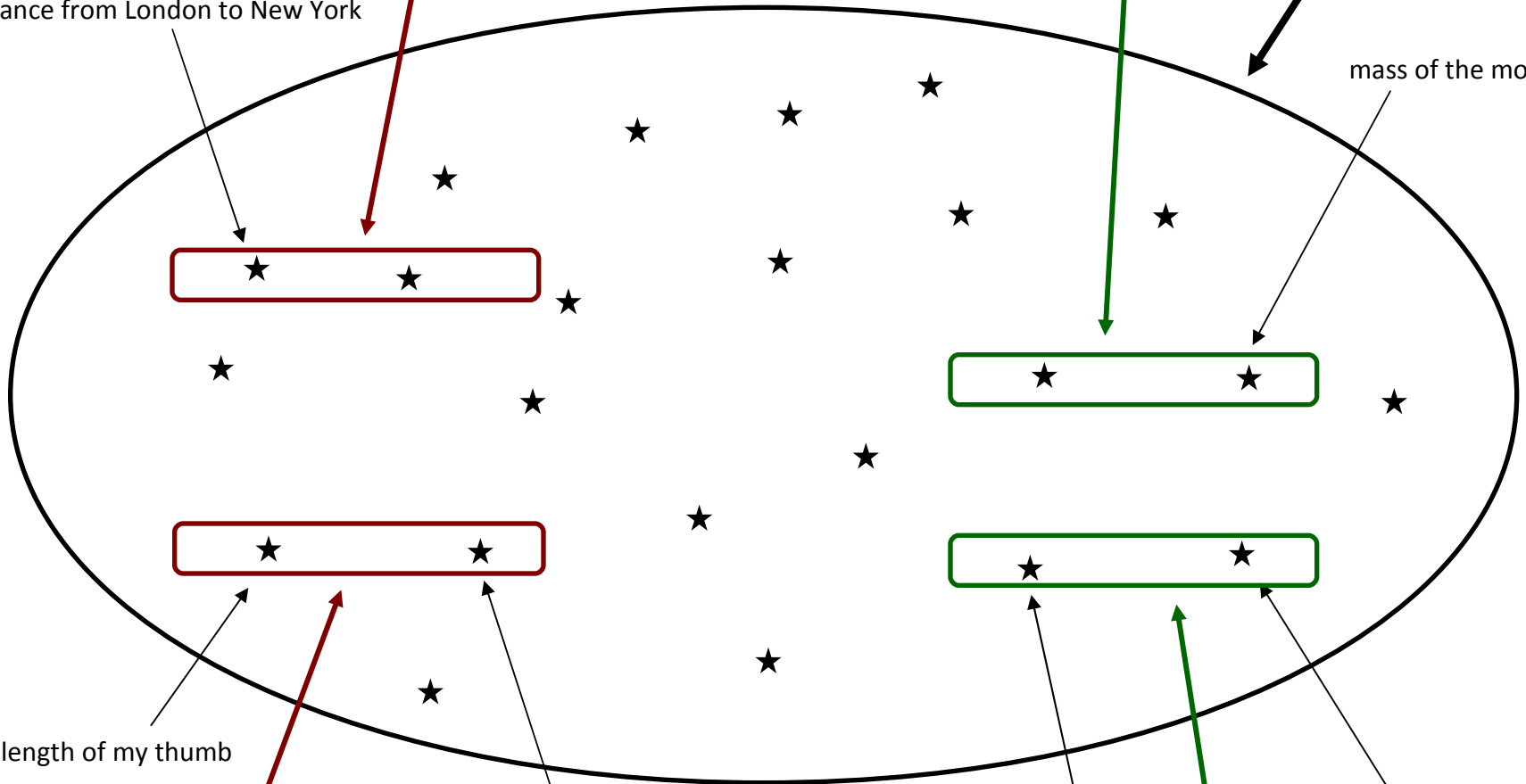
**lengths equal to the distance from London to New York**

**masses equal to the mass of the moon**

**particular quantity**

distance from London to New York

mass of the moon



length of my thumb

height of my coffee cup

mass of my car

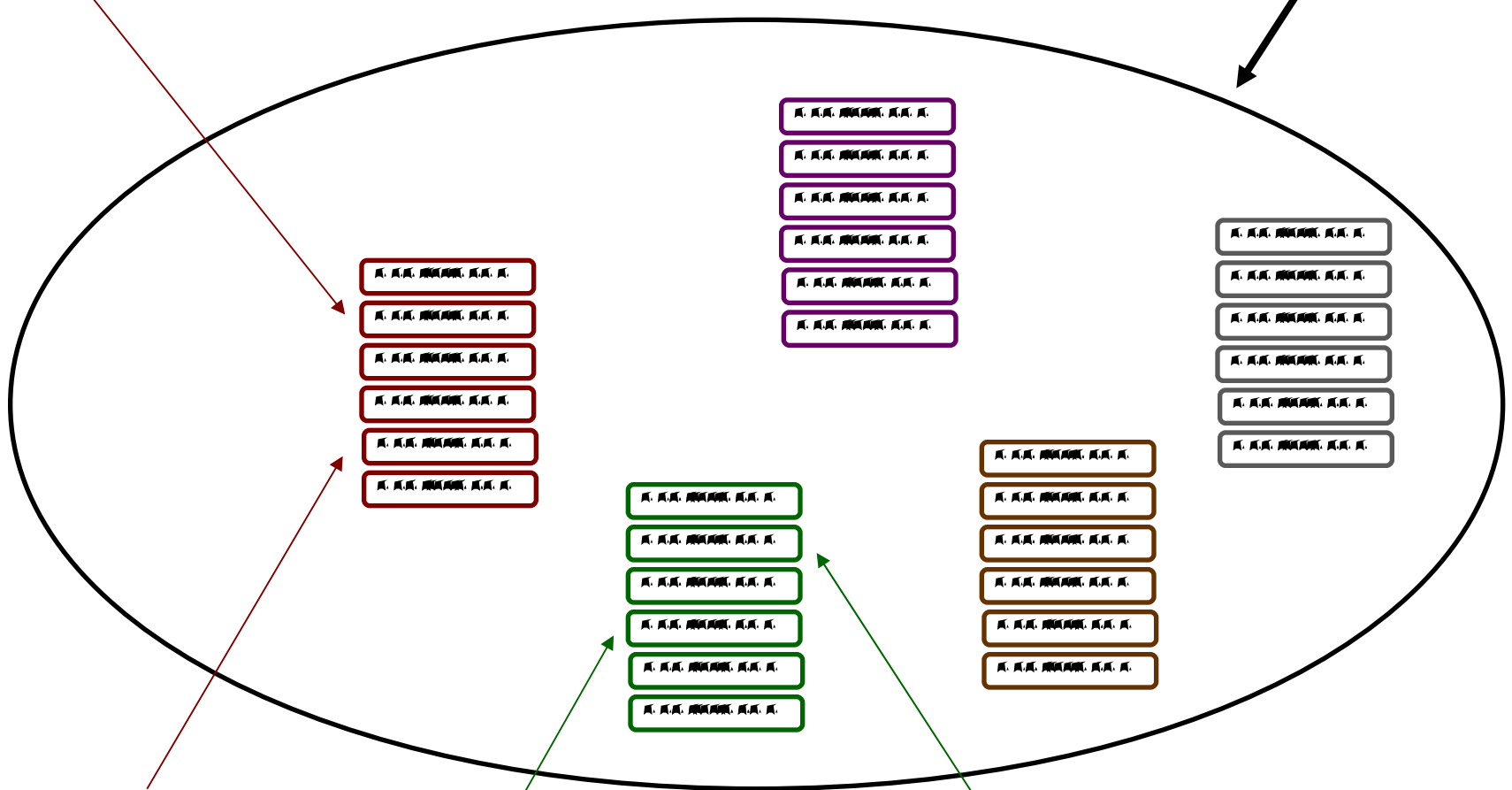
mass of Barbar the elephant

**lengths equal to the height of my coffee cup**

**masses equal to the mass of my car**

magnitude of quantity

lengths equal to the distance from London to New York

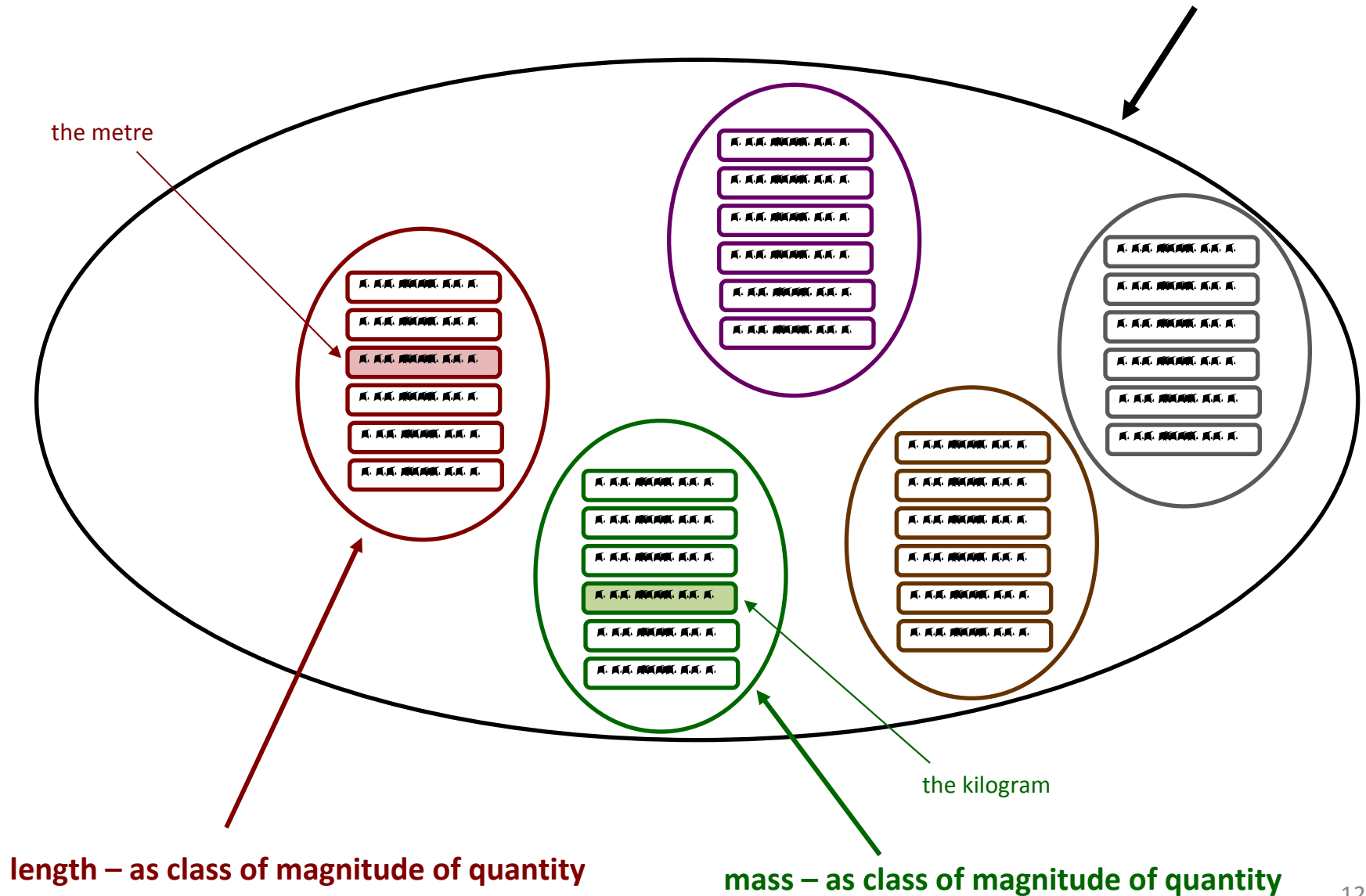


lengths equal to the height of my coffee cup

masses equal to the mass of my car

masses equal to the mass of the moon

# kind of quantity – as class of magnitude of quantity



the metre

length – as class of magnitude of quantity

the kilogram

mass – as class of magnitude of quantity

3

2

1

0

