

# Mathematical Entities

## Do mathematical objects exist?

- Geometry is a branch of mathematics that studies the sizes, shapes, positions, angles, and dimensions of thing.
- Arithmetic is the branch of mathematics dealing with the properties and manipulation of numbers.





### Basic dosage calculation

$$\frac{D \text{ (desired dose)}}{H \text{ (amount on hand)}} \times V \text{ (volume)} = \text{Dose}$$

### I.V. drips in mcg/minute

$$\frac{\text{mg}}{\text{mL}} \times \frac{1,000 \text{ mcg}}{1 \text{ mL}} \times \frac{\text{mL}}{1 \text{ hour}} \times \frac{1 \text{ hour}}{60 \text{ minute}} = \text{mcg/minute}$$

(÷ by kg to get mcg/kg/minute)

### I.V. drips in units/hour

$$\frac{D \text{ (desired)}}{H \text{ (on hand)}} \times V \text{ (volume)} = \text{units/hour} \text{ (\# mL} \times \text{units/mL} = \text{dose)}$$

## Nuclear Fission

