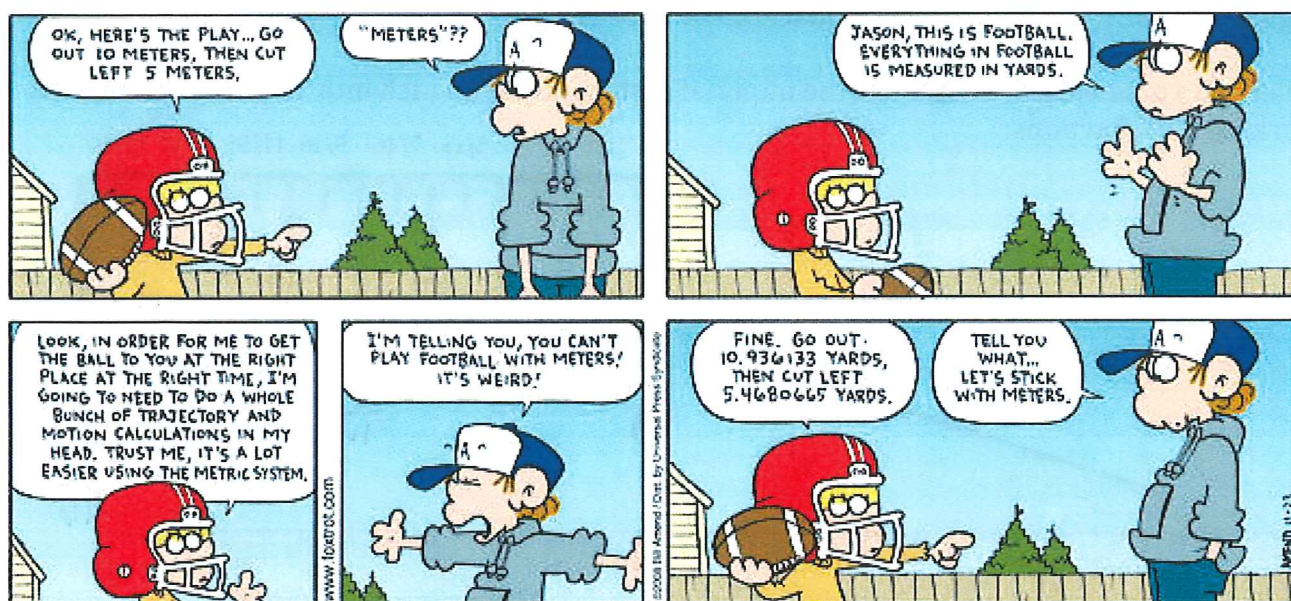


Name: \_\_\_\_\_ Block: \_\_\_\_\_

## Unit 2 – Measurements and Conversions

- 2.1 Reading Rulers
- 2.2 Metric Length Conversions
- 2.3 Imperial Length Conversions
- 2.4 Metric/Imperial Length Conversions
- 2.5 Mass Conversions
- 2.6 Volume/Capacity Conversions



## 2.1 – Reading Rulers

The SI System (or *Système International d'Unités*) is known as the **metric system**. This system was developed in France in 1791 to standardize all types of measurements around the world. The base metric unit for length is the metre. All other metric length units are written in terms of this base unit:

$$1 \text{ km} = 1000 \text{ m}$$

$$1 \text{ m} = 100 \text{ cm}$$

$$1 \text{ cm} = 10 \text{ mm}$$

Rulers and tape measures that use the metric system divide a metre into 100 parts and a centimetre into 10 parts:



The **imperial system** evolved from a system used in ancient Rome based on **referents** from the human body and everyday activities. For example,

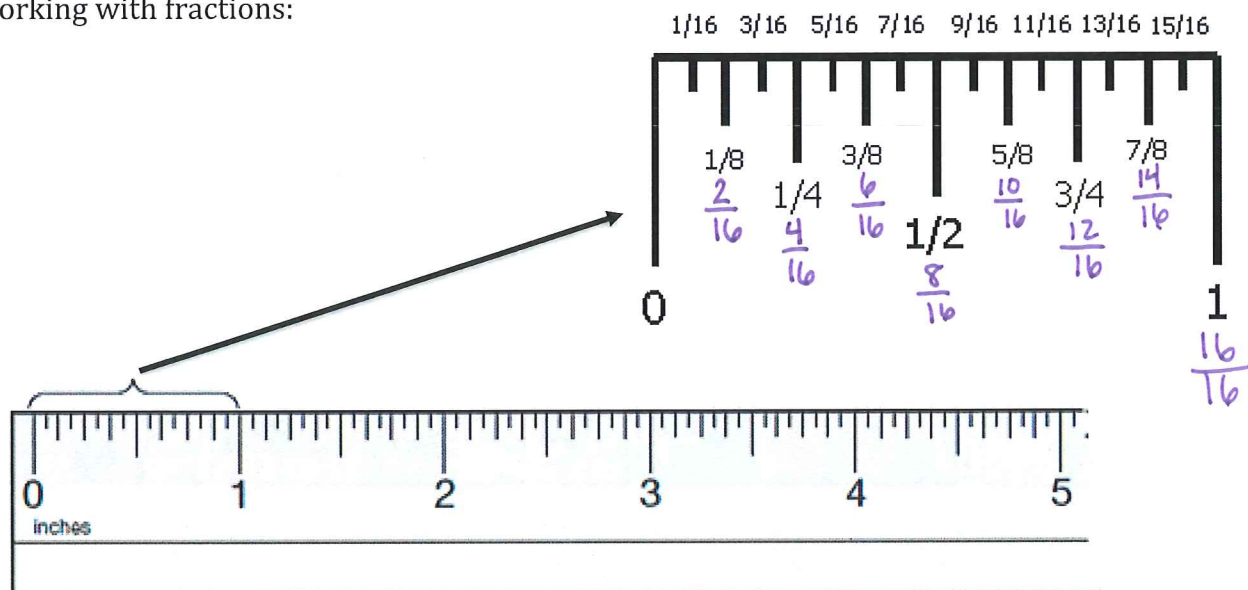
- 1 inch—the width of a person's thumb
- 1 foot—the distance from a person's heel to the big toe
- 1 yard—the length of a person's stride

### Imperial Units for Length

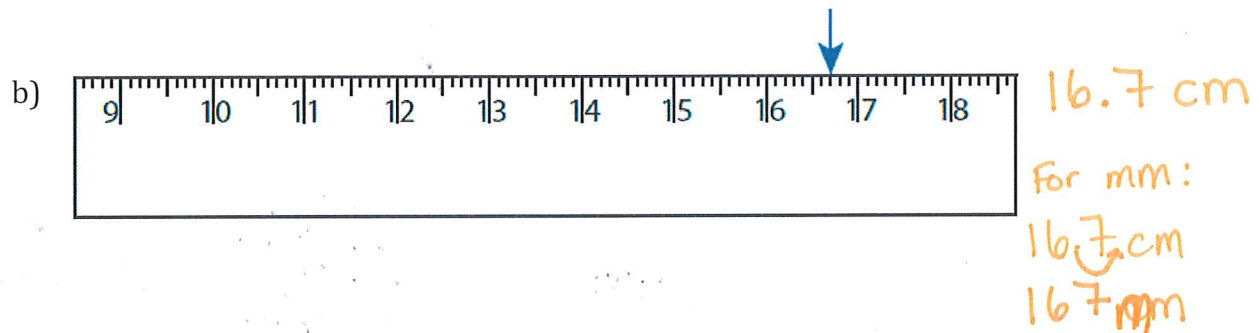
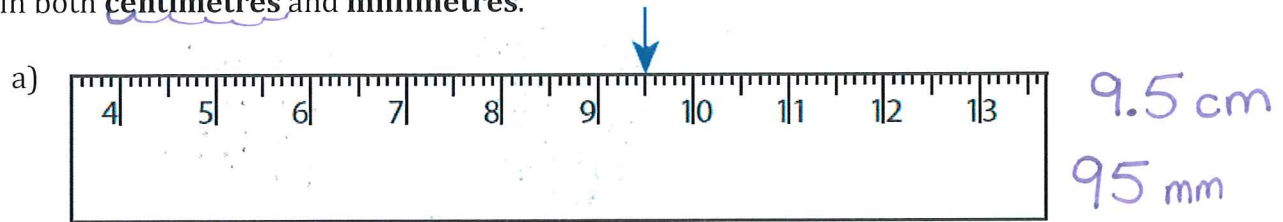
Unit	Relationships
inch (in. or ")	
foot (ft or ')	12 inches = 1 foot
yard (yd)	3 feet = 1 yard
mile (mi)	1760 yards = 1 mile

Often these units were based on an important person, like a king. This resulted in units that were different in different regions. In 1824, the units were standardized and became the imperial system.

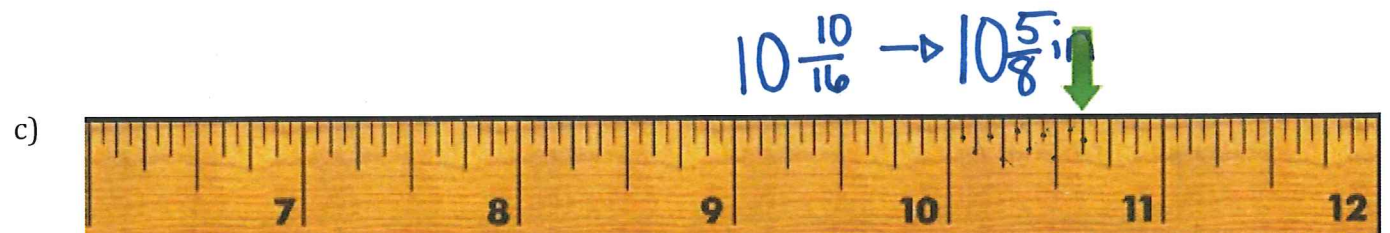
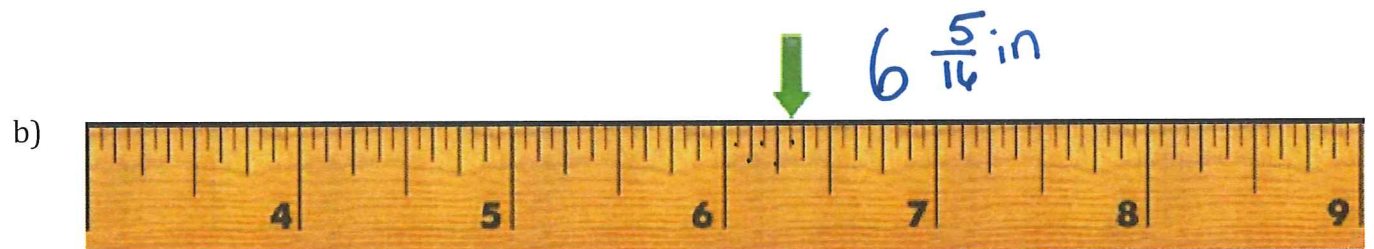
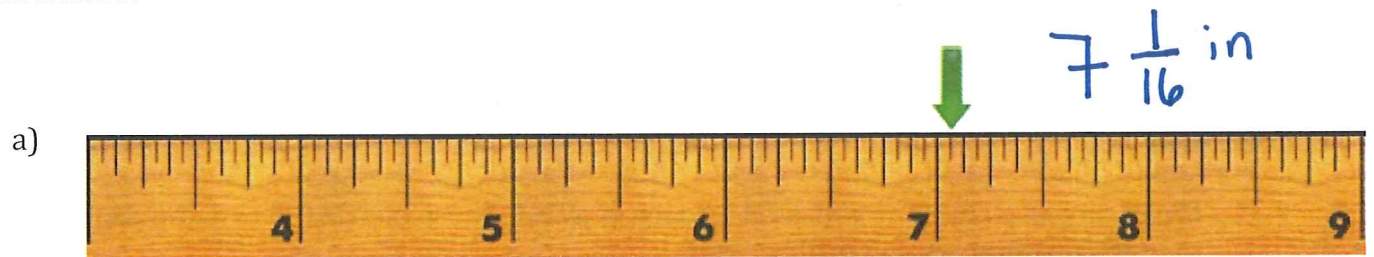
Rulers and tape measures that use the imperial system divide an inch into 16 parts. This means working with fractions:



**Ex 1.** Write the measurement indicated by each arrow on these metric rulers. Express your answer in both centimetres and **millimetres**.



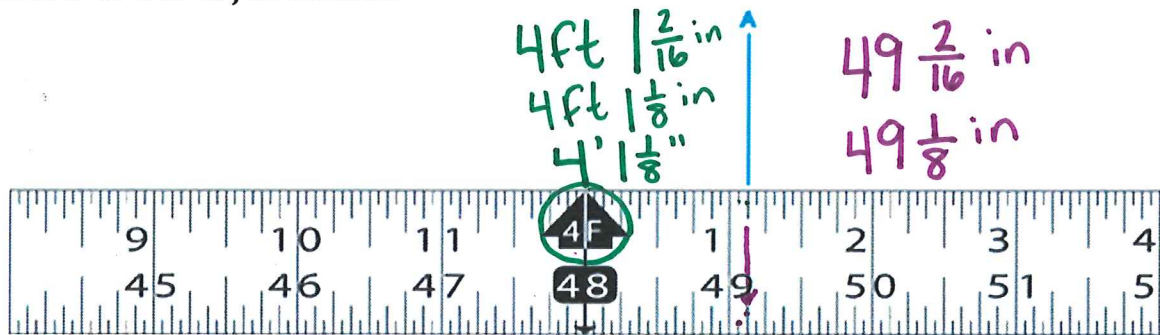
**Ex 2.** Write the measurement indicated by each arrow on these imperial rulers. Express your answer in **inches**.



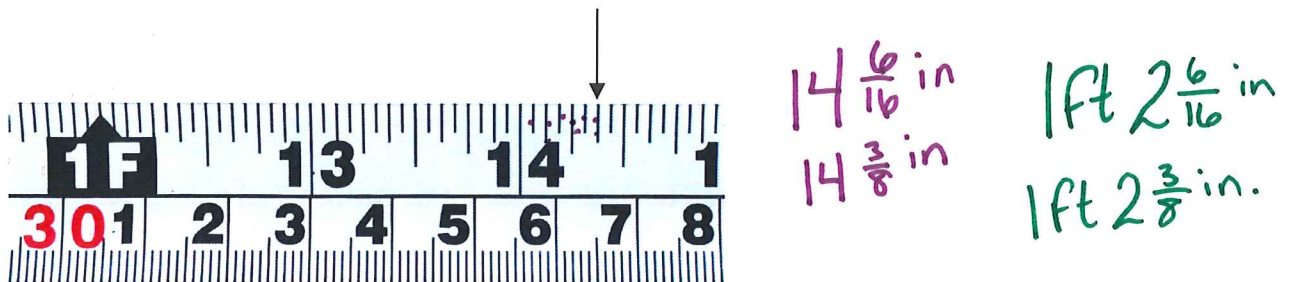


**Ex 3.** Write the measurement indicated on these tape measures. Express your answer in both **feet/inches** as well as **just inches**.

a)



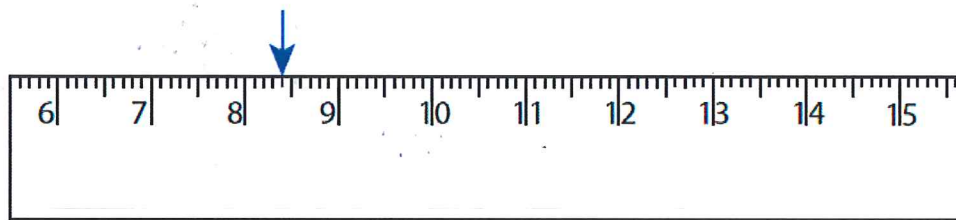
b)



## 2.1 Practice

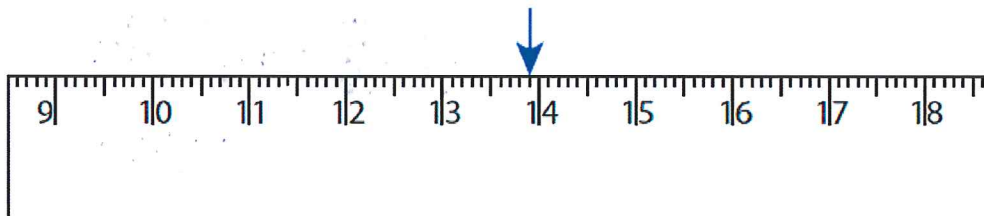
- Write the measurement indicated by each arrow on these metric rulers. Express your answer in both **centimetres** and **millimetres**.

a)



\_\_\_\_\_ cm  
or  
\_\_\_\_\_ mm

b)



\_\_\_\_\_ cm  
or  
\_\_\_\_\_ mm