

## 2.2 Reading Imperial Rulers and Tape Measures

The imperial system of measurement is still commonly used in the trades. As the imperial system is based on fractions it is important to understand the basics.

### How fractions work

A fraction is a part of a whole number

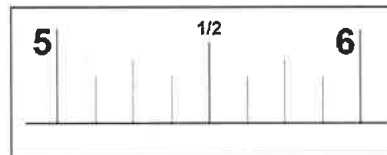
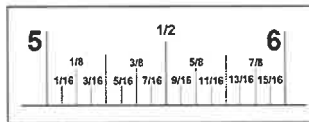
A whole can be divided up into as many parts as a person wants. On imperial measuring devices such as tape measures, common divisions are  $1/8$ ,  $1/16$ , and  $1/32$ . The

more pieces a number is divided up into the smaller each part is.

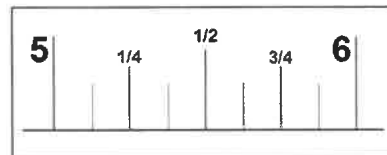
Tape measures and rulers are most commonly divided into sixteenths ( $\frac{1}{16}$ )

How to tell is by counting the number of divisions between 2 whole numbers. As below

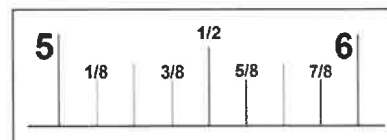
There are now 16 equal divisions between each inch. Common tapes and rules usually are not graduated smaller than sixteenths. However, precision measurements require smaller graduations.



Each half inch is divided in half by a slightly shorter line indicating  $1/4$  on the left and  $3/4$  on the right.



Each  $1/4$  inch is divided in half by the shortest line which indicates  $1/8$  inch.



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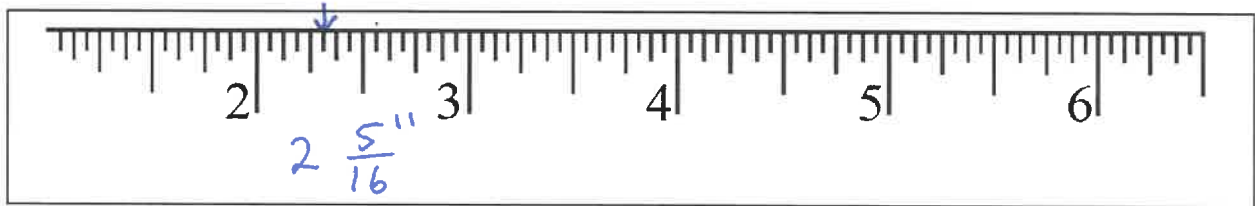
1) Find the whole # left of the measure L2

2) Find the length of the line ( $\frac{1}{2}, \frac{1}{4}, \frac{1}{8}, \frac{1}{16}$ )?

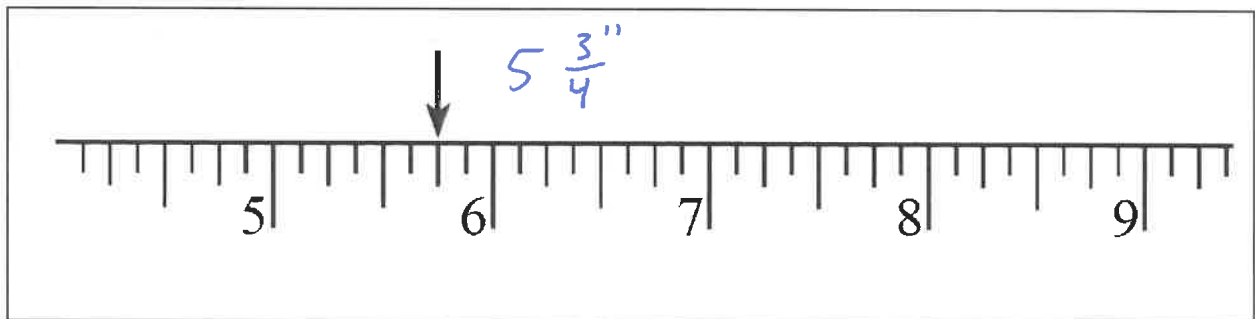
How to read an Imperial Ruler

3) Count by odds

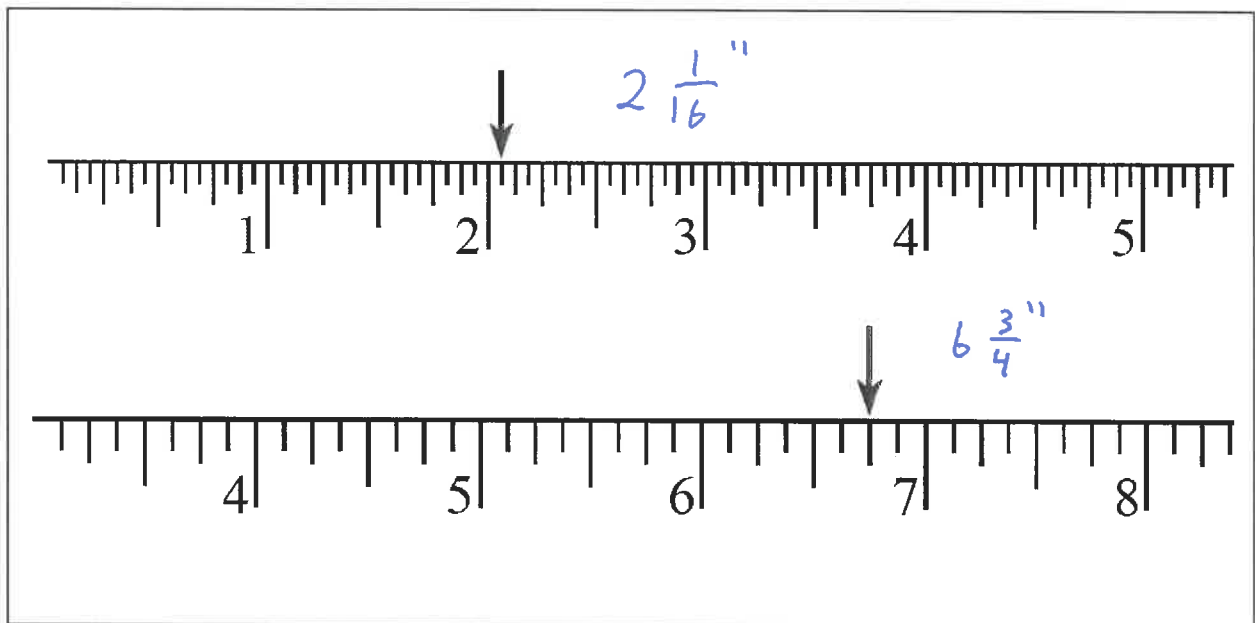
Ex 1



Ex 2



Show you know



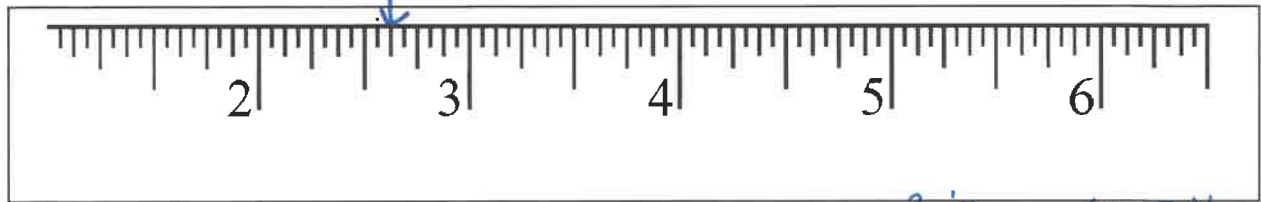
## Expressing Fractions in Lowest terms

Tape measure lengths, wrench sizes, etc are always expressed in lowest terms.

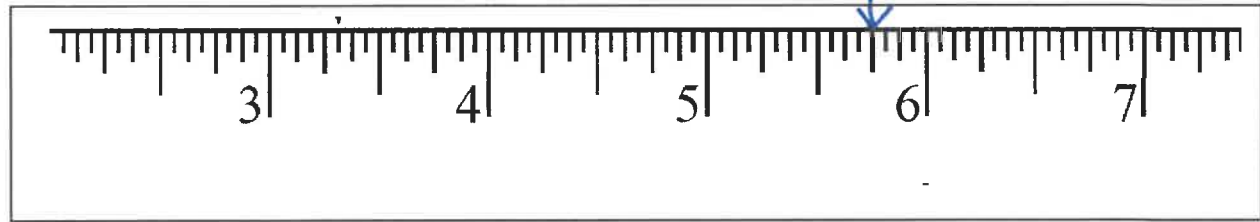
*Can also count all markings then reduce*

Ex 1

$$2 \frac{10}{16} \div 2 = 2 \frac{5}{8}''$$



$$5 \frac{12}{16} \div 4 = 5 \frac{3}{4}''$$



Show you know

$$\frac{10}{4} \div 2 = \frac{5}{2} = 2 \frac{1}{2}$$

$$\frac{8}{16} = \frac{1}{2}$$

$$\frac{6}{8} = \frac{3}{4}$$

$$\frac{6}{16} = \frac{3}{8}$$

$$\frac{10}{16} = \frac{5}{8}$$

Show you know      Express in lowest terms.

