Quiz

Fractions are important!!!!!

Grade 7

Review

SI Units of Measurement

Length

km	hm	dam	m	dm	cm	mm
kilo	hecto	deca	meter	deci	centi	milli

Weight (mass)

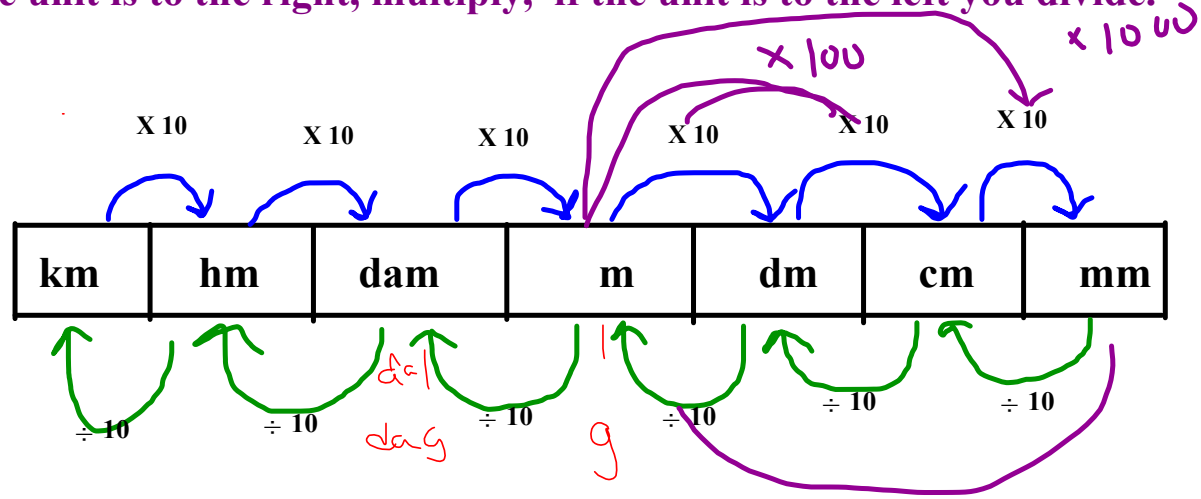
kg hg dag g dg cg mg

Liquid Volume

kl hl dal L dl cl ml

How do you change from one unit to another?

To change to the unit beside it, either multiply or divide by 10. If the unit is to the right, multiply, if the unit is to the left you divide.



Complete the following:

(a) 20 m = 2000 cm

(b) 321 dag = 3.21 kg

(c) 72 cm = 720 mm

(d) 82 hl = 8200 L

(e) 600 mm = 0.6 m

(f) 250 ml = 2.5 dl

(g) 5000 mg = 50 dg

(h) 3589 m = 3.589 km

(i) 62 kl = 6200 dal

(j) 15 dm = 1.5 m

Systeme international d'unites (SI)

This is a measurement system commonly used in Canada. It is a decimal system based on multiples of 10. This means you can convert to other SI units simply by multiplying or dividing by a multiple of 10!

SI PREFIX	SI SYMBOL	SI UNIT CONVERSION FACTOR (STANDARD FORM)	FACTOR (POWER)	FACTOR LANGUAGE
tera	T	1 terametre = 1 000 000 000 000 metres	10^{12}	trillion
giga	G	1 gigametre = 1 000 000 000 metres	10^{9}	billion
mega	M	1 megametre = 1 000 000 metres	10^{6}	million
kilo	k	1 kilometre = 1 000 metres	10^{3}	thousand
hecto	h	1 hectometre = 100 metres	10^{2}	hundred
deca	da	1 decametre = 10 metres	10^{1}	ten
		1 metre = 1 metre	$\mathbf{10^{0}}$	**one**
deci	d	1 decimetre = 0.1 metres	10^{-1}	tenth
centi	c	1 centimetre = 0.01 metres	10^{-2}	hundredth
milli	m	1 millimetre = 0.001 metres	10^{-3}	thousandth
micro	µ	1 micrometre = 0.000 001 metres	10^{-6}	millionth
nano	n	1 nanometre = 0.000 000 001 metres	10^{-9}	billionth
pico	p	1 picometre = 0.000 000 000 001 metres	10^{-12}	trillionth
femto	f	1 femtometre = 0.000 000 000 000 001 metres	10^{-15}	quadrillionth

A list of prefixes is given in the chart above The basic unit of "metres" is used in the chart. Please note that the prefixes "kilo", "hecto", "centi" and "milli" are used very frequently (light blue); the prefixes "mega", "deca", "deci" and "micro" are are used less frequently (light red), while the remaining prefixes (light purple) are rarely used (other than for extremely large or small numbers in science).

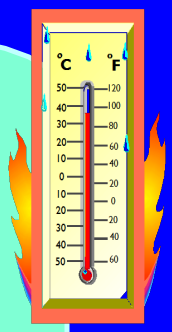
TABLE 1.5 Selected Prefixes Used in the Metric System

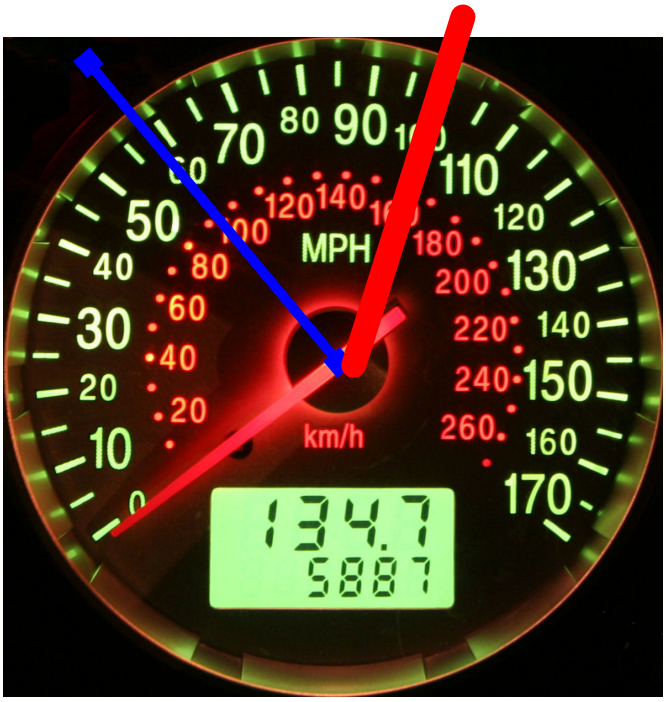
Prefix	Abbreviation	Meaning	Example
Giga	G	10^9	1 gigameter (Gm) $= 1 \times 10^9$ m
Mega	M	10^6	1 megameter (Mm) $= 1 \times 10^6$ m
Kilo	k	10^3	1 kilometer (km) $= 1 \times 10^3$ m
Deci	d	10^{-1}	1 decimeter (dm) $= 0.1$ m
Centi	c	10^{-2}	1 centimeter (cm) $= 0.01$ m
Milli	m	10^{-3}	1 millimeter (mm) $= 0.001$ m
Micro	μ[a]	10^{-6}	1 micrometer (μm) $= 1 \times 10^{-6}$ m
Nano	n	10^{-9}	1 nanometer (nm) $= 1 \times 10^{-9}$ m
Pico	p	10^{-12}	1 picometer (pm) $= 1 \times 10^{-12}$ m
Femto	f	10^{-15}	1 femtometer (fm) $= 1 \times 10^{-15}$ m

[a]This is the Greek letter mu (pronounced "mew").

Chapter 4

System of Measurement and Conversions





If you are driving 100 kilometers per hour:

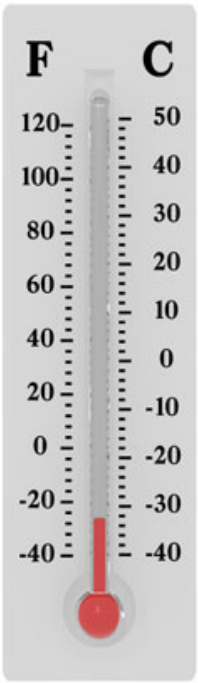
How fast are you driving in miles per hour?

approximately:

If you are driving 100 miles per hour:

How fast are you driving in kilometers per hour?

approximately:



If it is 20 degrees Celsius:

What is the temperature in degrees Fahrenheit?

approximately:

If it is 20 degrees Fahrenheit:

What is the temperature in degrees Celsius?

approximately:

Activate Prior Learning:
SI Units

Common SI units of length are the:

Kilometre, Metre, Centimetre, and Millimetre.

What are referents for these SI units?

Unit	Referent
Kilometre (km)	distance you could comfortably in 15 minutes
Metre (m)	width of a door
Centimetre (cm)	width of little finger
Millimetre (mm)	thickness of a dime

Imperial System

This is a measurement system commonly used in the United States and United Kingdom on a daily basis, however,Imperial units are still used in many industries in Canada even though we have adopted the metric system.

The imperial system is not a decimal system as the measurements were all developed at different times to meet certain needs. Therefore, you must use aconversion factor to

FIGURE 4.1

Some Common Imperial Units

Length

Unit	*Abbreviation*
inch	in or "
foot	ft or '
yard	yd
mile	mi

Imperial Conversions

We will be working with units for length. The smallest unit we will use is the inch, followed by a foot, followed by a yard, and finally a mile. Read the top of page 145 and then copy and complete the table below.

IMPERIAL CONVERSION TABLE
1 foot = 12 inches
1 yard = 3 feet = 36 inches
1 mile = 1760 yards = 5280 feet

$$1760\,\text{yd} \times \frac{3\,\text{ft}}{1\,\text{yd}} =$$

Imperial Unit	Abbreviation	Referent	Relationship between Units
Inch	in.	Thumb length	
Foot	ft.	Foot length	1 ft. = 12 in.
Yard	yd.	Arm span	1 yd. = 3 ft. 1 yd. = 36 in.
Mile	mi.	Distance walked in 20 min	1 mi. = 1760 yd. 1 mi. = 5280 ft.

To measure the length of an object, first determine the smallest indicated unit by counting the number of divisions between two adjacent inch marks. The ruler below has ? divisions between two adjacent inch marks

$3\frac{7}{16}$"

The pencil point is closest to ? ?

A fraction of an imperial measure of length is usually written in fraction form, not decimal form.

1.1 Imperial Measures of Length

Class/ Homework

Assignment:
Measuring in an Imperial System

Due tomorrow FIRST of class

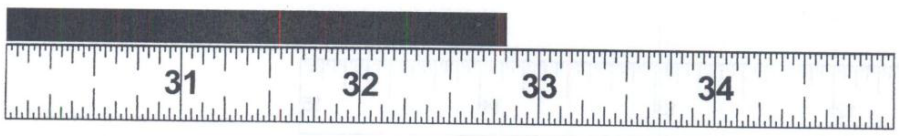
Geometry, Measurement and Finance 10
Assignment – Measuring in an Imperial System

Name: _____
January 2013

INSTRUCTIONS: Put your answer in the blank that is provided. Make sure all fractions are completely reduced.

Reading a Standard Ruler

How many Inches ?



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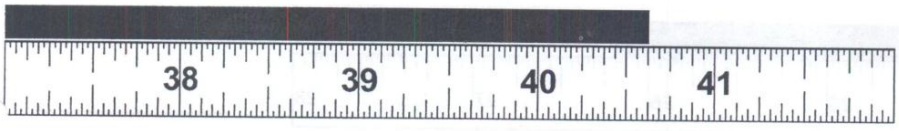

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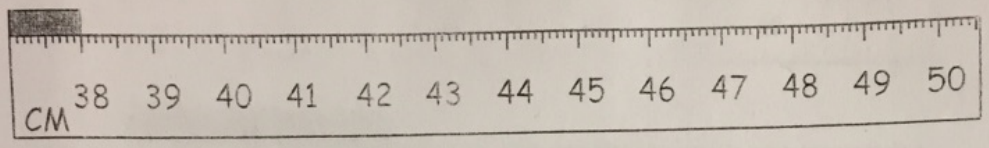
Measuring with ruler

Read on the ruler the length of the line and write the length next to the ruler.

The length is:



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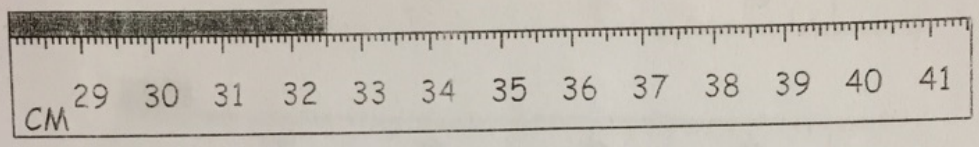

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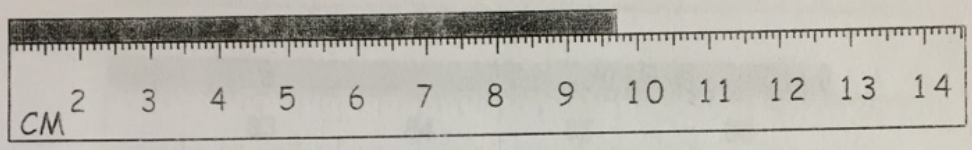

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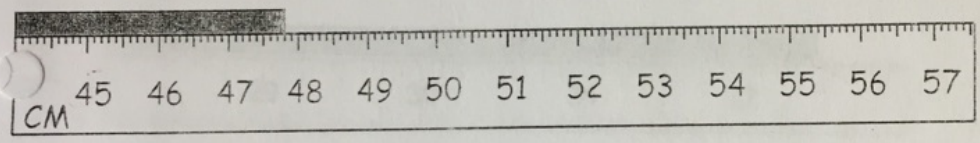

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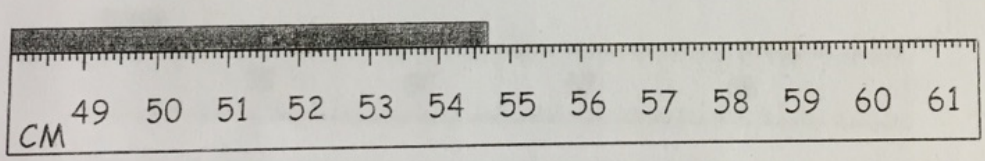

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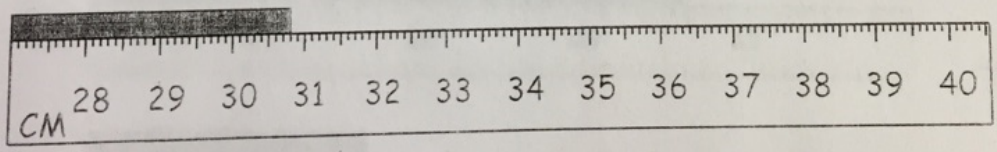

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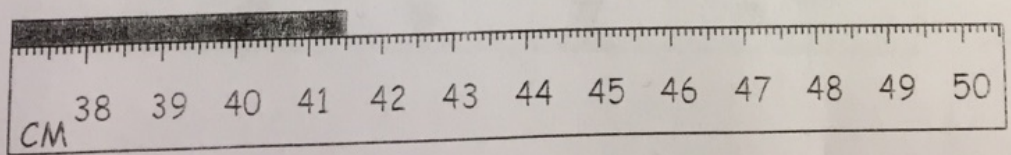

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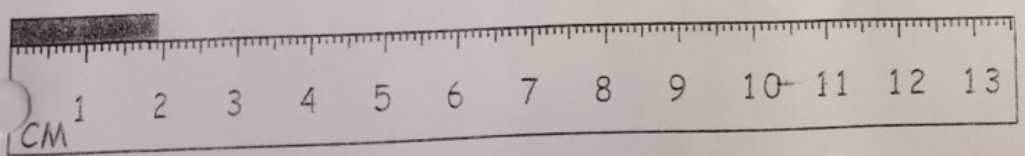

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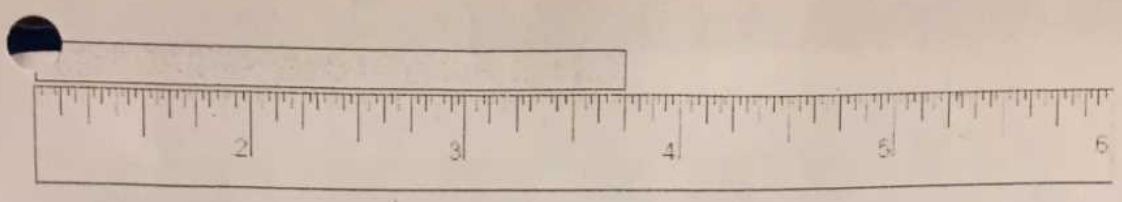
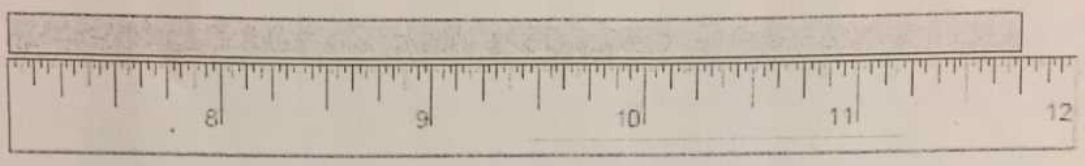
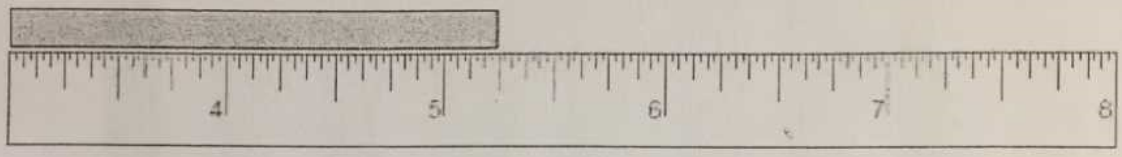
Reading a Tape Measure







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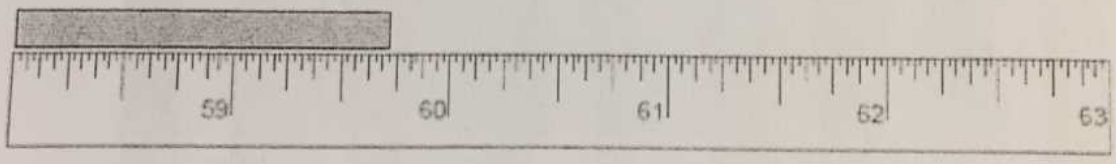

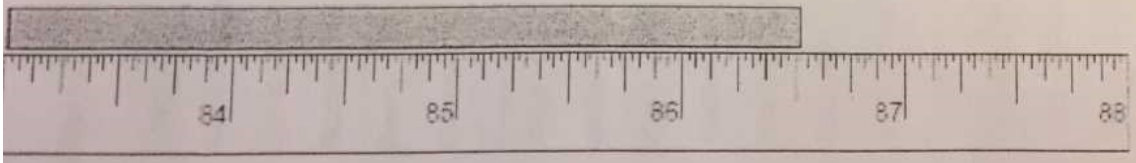

Attachments

Day 1_adding and Subtracting Fractions.ks-ipa

Assignment - Measuring in an Imperial System.pdf