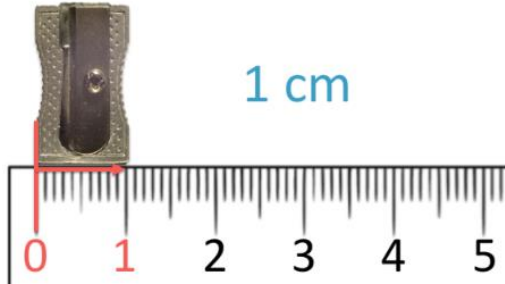


# Grade 10 Workplace CHT

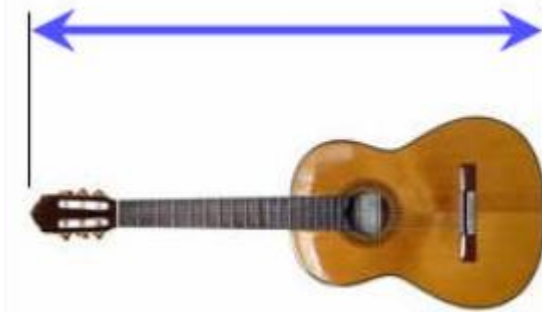
## Measurements of Length

Spring 2026

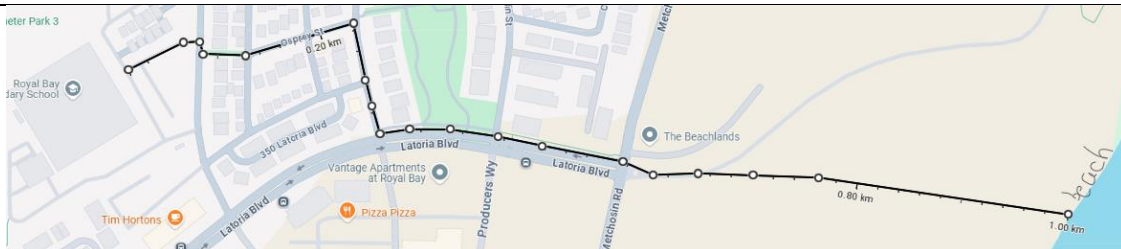
NAME:



≈ 1 cm



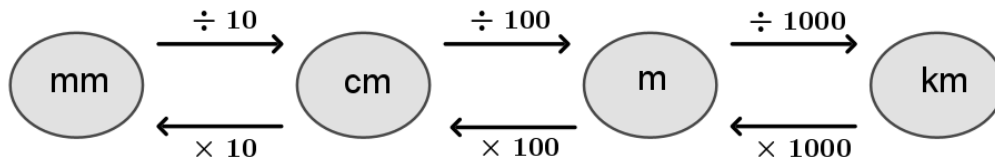
≈ 1 meter



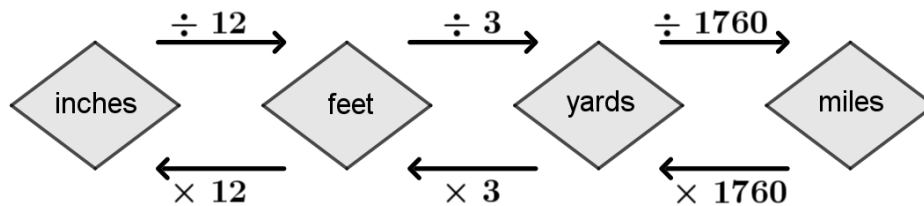
≈ 1 km

## Conversion tables

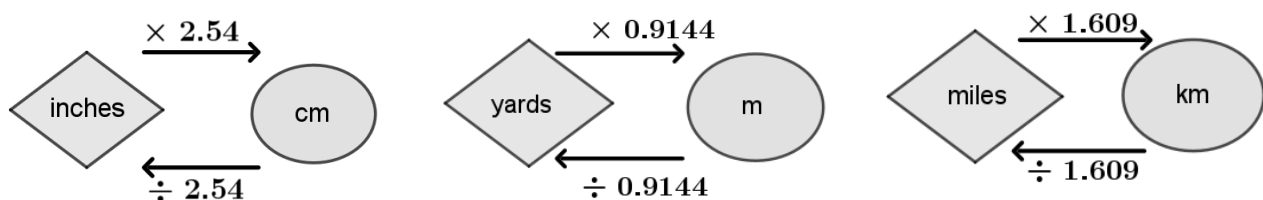
METRIC CONVERSIONS					
1 centimeter	=	10 millimeters	1 cm	=	10 mm
1 meter	=	100 centimeters	1 m	=	100 cm
1 kilometer	=	1000 meters	1 km	=	1000 m



IMPERIAL CONVERSIONS					
1 foot	=	12 inches	1'	=	12"
1 yard	=	36 inches	1 yd	=	36"
1 yard	=	3 feet	1 yd	=	3'
1 mile	=	1760 yards	1 mi	=	1760 yd



IMPERIAL TO METRIC CONVERSIONS					
1 inch	=	2.54 centimeters	1"	=	2.54 cm
1 yard	=	91.44 centimeters	1 yd	=	91.44 cm
1 mile	=	1.609 km	1 mi	=	1.609 km

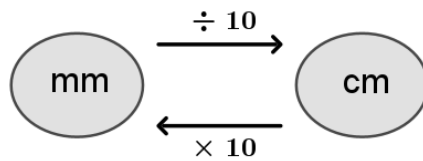


## Lesson 1 cm and mm

Classroom activity – measuring with a cubit and a span



Complete the mm to cm conversions:



30 mm =	cm
50 mm =	cm
120 mm =	cm
60 mm =	cm
300 mm =	cm
5550 mm =	cm

mm =	4 cm
mm =	3.5 cm
mm =	24.5 cm
mm =	9 cm
mm =	32 cm
mm =	15.9 cm

**Perimeter of Quadrilaterals:** Measuring and summing with decimals

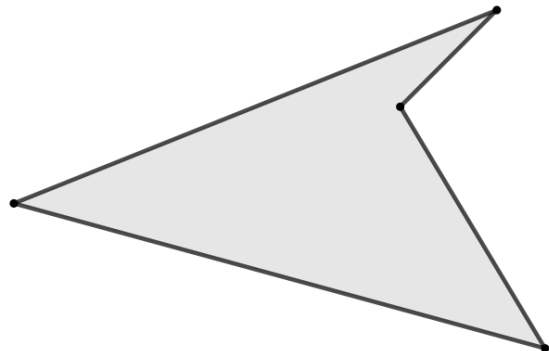
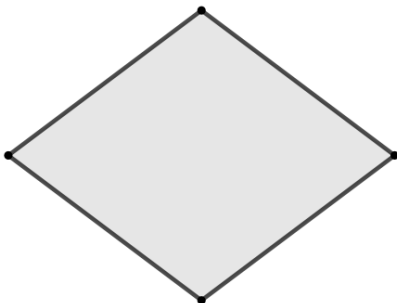
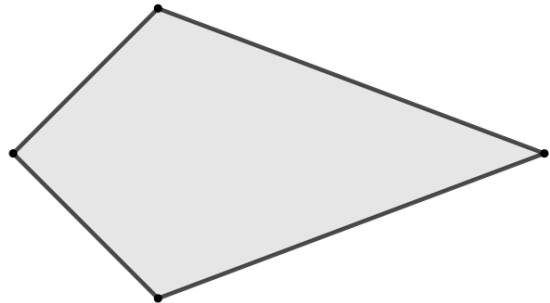
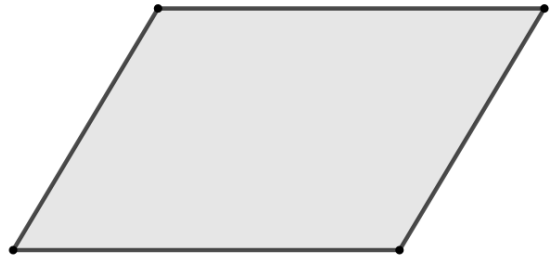
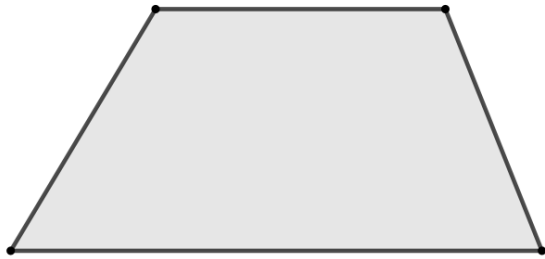
(a) The name 'quadrilateral' means:

Parallelogram	Rectangle	Irregular, concave quadrilateral
Kite	Rhombus	Trapezoid

(b) Write the correct name on each quadrilateral.

(c) Measure each side using cm and mm. Eg, 5.3 cm.

(d) Add each side to calculate the Perimeter for each shape.

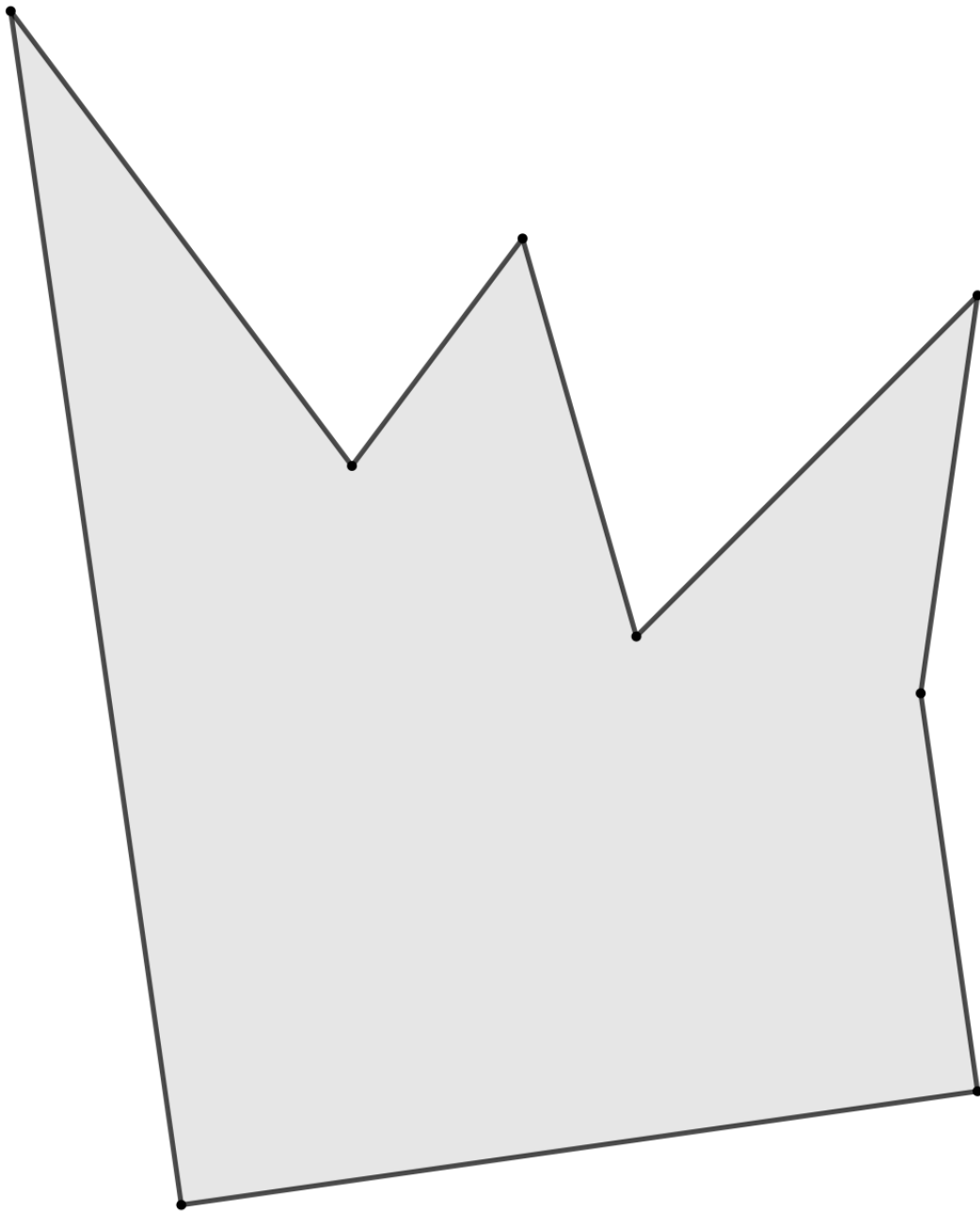


Which one of these shapes (by your estimation) has the largest area? Which one has the smallest area?

Measure each edge of this irregular **octagon**.

On the inside of the edge, write the length using cm and mm, eg 5.3 cm.

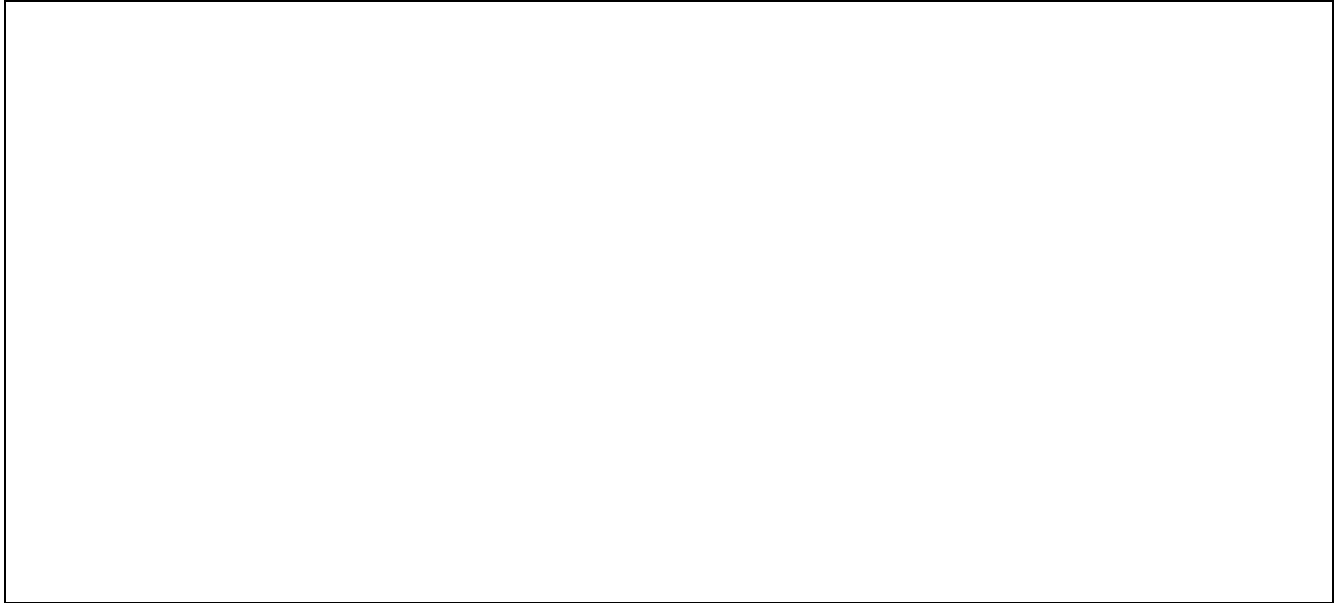
On the outside of the edge, write the length using only mm, eg 53 mm.



Add the edges to calculate the perimeter of the shape. P =            cm =            mm

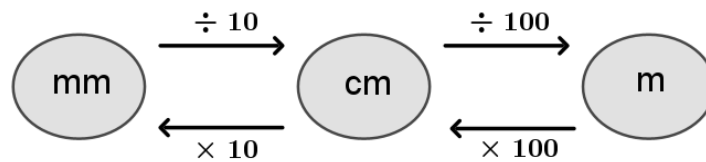
## Lesson 2: mm, cm and m

Classroom activity – Estimate with popsicle sticks



### Conversions (i) cm and mm and m

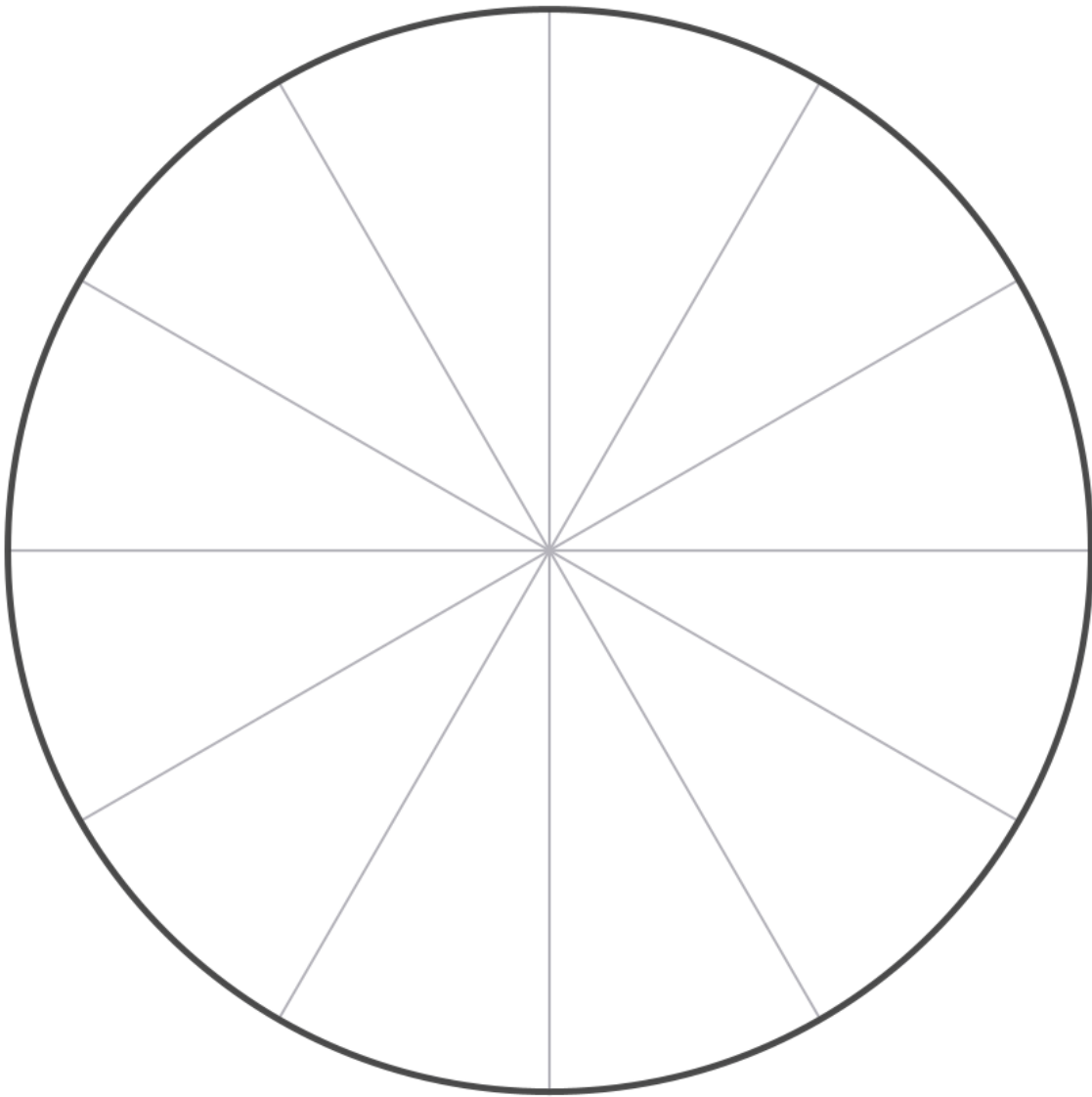
Complete the mm to cm to m conversions:



30 mm =	cm =	m
50 mm =	cm =	m
120 mm =	cm =	m
60 mm =	cm =	m
300 mm =	cm =	m
5550 mm =	cm =	m

mm =	4 cm =	m
mm =	3.5 cm =	m
mm =	24 cm =	m
mm =	cm =	1 m
mm =	cm =	3 m
mm =	cm =	0.5 m

Human Circle Analysis:








Measurement tool name:

Length:

Circle properties:




	# Measurement tool	mm	cm	m
Radius				
Diameter				
Circumference				

**Common Metric Referents:**

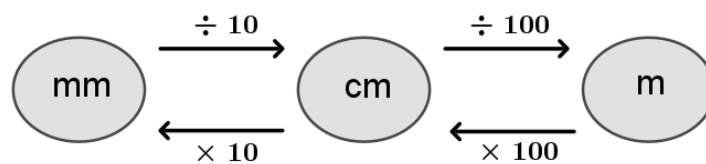
Referent	Measurement	Description
	1 mm	
	1 cm	
	30 cm	
your referent:	1 m	
	100 m	
	1 km	

**Key Concept: Estimating Lengths**

Estimate lengths using referents. Estimate the following lengths using reasonable units.

Object	Referent used	Estimate
 Thickness of a phone		
 Height of the door		
 Perimeter of a soccer field		

**Conversions (ii)** Complete the mixed up mm to cm to m conversions:



mm =	20 cm =	m
mm =	4.8 cm =	m
mm =	250 cm =	m
mm =	cm =	3 m
mm =	cm =	6.8 m
mm =	cm =	0.2 m

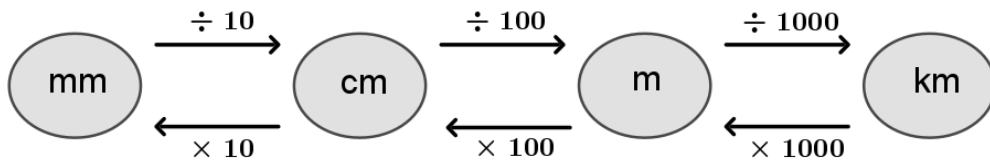
300 mm =	cm =	m
mm =	300 cm =	m
mm =	cm =	5 m
mm =	45 cm =	m
45 mm =	cm =	m
mm =	cm =	45 m

### Lesson 3: Measuring and converting with km

Classroom activity – km around Victoria and beyond:

FROM	TO	ESTIMATE	Google maps says:

#### CONVERSIONS:



mm =	cm =	m =	1 km
	550,000 cm =	m =	km
	70,000 cm =	m =	km
	150 cm =	m =	km
	cm =	m =	3 km
	cm =	m =	3.5 km
mm =	50,000 cm =	m =	0.5 km
mm =	cm =	m =	2 km

**1 km loop: Walk & chat; Walk with purpose; Jog; Run**

DATA SET:


ORGANISED DATA (least time to most time)

Walk & Chat

--	--	--	--	--	--	--	--

Walk with purpose

--	--	--	--	--	--	--	--

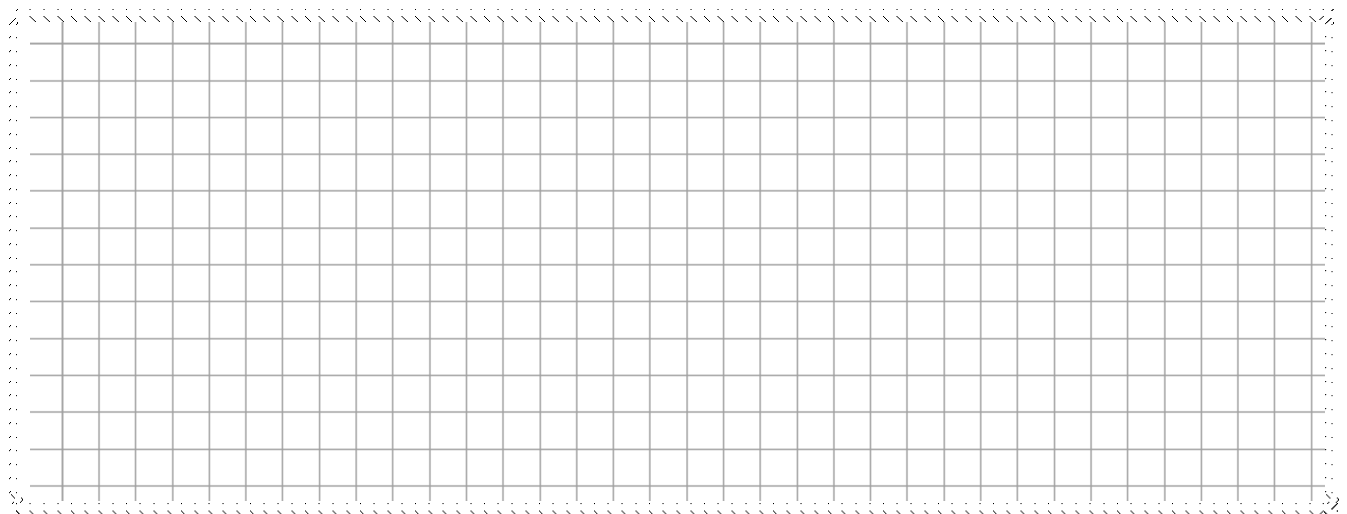
Jog

--	--	--	--	--	--	--	--

Run

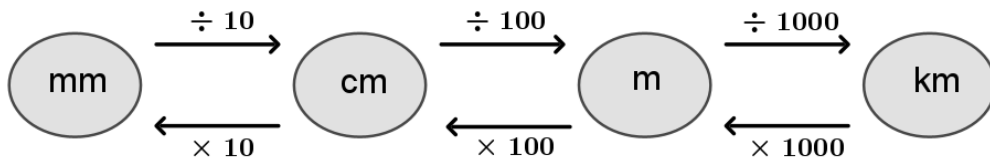
--	--	--	--	--	--	--	--

INFOGRAPHIC



Conversions practice. Complete the conversions.

You do not need to complete the grey space in the table.



		m =	3.2 km
		800 m =	km
6 mm =	cm		
mm =	170 cm =	m	
	cm =	m =	3.2 km
	5 cm =	m	
mm =	60,000 cm =	m =	km
mm =	cm =	4500 m =	km
4,500 mm =		m	
	5,000,000 cm =		km
2 mm =			km
=			2 km



## Lesson 4: Paddle to Lummi 2019

Routes for the 2019 Paddle to Lummi

### The history of canoe journeys in the PNW

Journeys by canoe along the waterways of the Pacific Northwest are ancient tradition, and for the past 30 years Canoe Journey has revived the tradition.

- **July 21, 1989**  
Emmett Oliver organizes the Paddle to Seattle as part of the Washington state centennial celebration. Frank Brown, of the Heiltsuk First Nation canoe family, invites tribes to journey to Bella Bella in British Columbia in 1993.
- **1993**  
Canoe families from several Coast Salish tribes make the journey to Bella Bella, B.C.
- **1994**  
Charlene Poste (now Krise) holds a healing ceremony for the South Sound waters, incorporating canoes in the ceremony. Philip H. Red Eagle and Tom Heidlbaugh begin organizing youth paddles that include ceremony, songs and storytelling.
- **1995 & 1996**  
Red Eagle and Heidlbaugh organize the Full Circle Journey for youth, a journey around Puget Sound taking place over two years.
- **1997**  
Heidlbaugh dies of cancer at age 55. Paddle to LaPush takes place.
- **1998**  
The Puyallup Tribe organizes the Paddle to Puyallup and invites Red Eagle to include the ceremony as part of the journey.
- **1999**  
Paddle to Ahousaht, B.C.
- **2000**  
Paddle to Songees, B.C.
- **2000**  
Paddle to Pendleton, OR
- **2001**  
Paddle to Squamish, B.C.
- **2002**  
Paddle to Quinault at Taholah
- **2003**  
Paddle to Tulalip
- **2004**  
Paddle to Chemainus, B.C.
- **2005**  
Paddle to Elwha at Port Angeles
- **2006**  
Paddle to Muckleshoot at Auburn
- **2007**  
Paddle to Lummi
- **2008**  
Paddle to Cowichan at Cowichan Bay, B.C.
- **2009**  
Paddle to Suquamish
- **2010**  
Paddle to Makah, Neah Bay
- **2011**  
Paddle to Swinomish at La Conner
- **2012**  
Paddle to Squaxin Island at Kamilche
- **2013**  
Paddle to Quinault at Taholah
- **2014**  
Paddle to Bella Bella, B.C.
- **2015**  
No host came forward for the 2015 tribal canoe journey, but various smaller events were held throughout the Northwest.
- **2016**  
Paddle to Nisqually at Olympia
- **2017**  
Paddle to We Wai Kai, Wei Wai Kum Nations at Campbell River, B.C.
- **2018**  
Paddle to Puyallup. Julian Brave NoiseCat and the canoe family from Oakland, CA, announce their intention to host the Alcatraz Canoe Journey in 2019 for the 50th anniversary of the occupation of Alcatraz.
- **2019**  
Paddle to Lummi

Sources: Marylin Bard, Philip H. Red Eagle, paddletolummi.org

Reporting by CRYSTAL PAUL, Graphic by MARK NOWLIN / THE SEATTLE TIMES

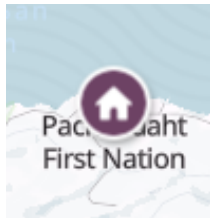
<https://www.seattletimes.com/life/30-years-after-the-paddle-to-seattle-tribal-canoe-journeys-represent-healing-and-revival/>

Learn about the 2019 Intertribal Canoe Journey to Lummi: <https://youtu.be/L5wk7xfkA10>

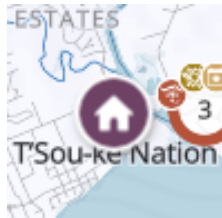


**Lesson 6: Learn about** one of the First Nations included in the SD62 land acknowledgement –

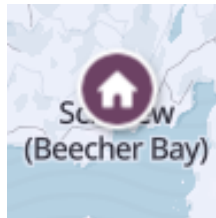
Pacheedaht



T'Sou-ke



SC'IA'NEW



Songhees



Malahat



Nation Chosen to Learn about:

**Find** the location of the nation as shown on <https://maps.fpcc.ca/> on Google Maps.

**Measure** the linear distance from Royal Bay school to the map location of the Nation using the 'measure distance' feature.

Distance from RBSS to .....Nation =            km

**Research** the Nation on <https://maps.fpcc.ca/>

Total Population:

Language:

	Percentage:	Calculate, number of people:
Fluent speakers:		
Semi-speakers:		
Learners:		

**Click** on the language itself to find out how where on Vancouver Island it is spoken and how many fluent speakers there currently are of this language:

Total number of fluent speakers across Vancouver Island:



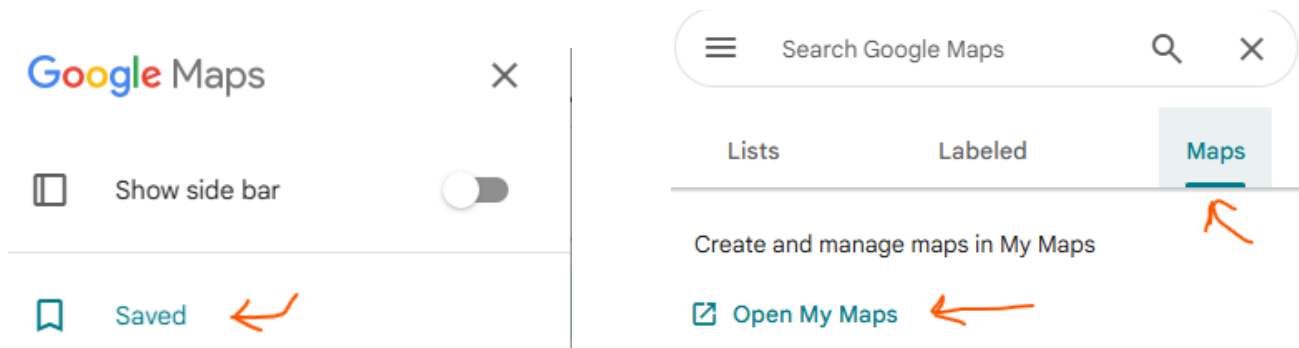
## Lesson 7: Tribal Journey: Distance Travelled

In this lesson we use the google map 'create a map' tool to measure the distance travelled by the T-Sou-ke First Nation on their journey to Lummi in 2019.

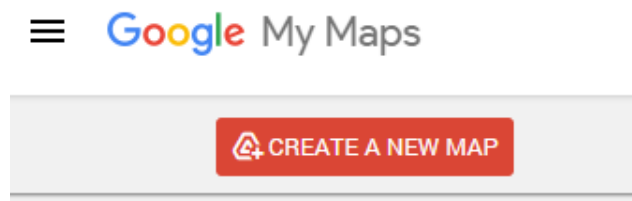
**Count** the number of stops on the journey from T'Sou-ke to Lummi.



**Open** Google maps on a chrome book. Click on the three bars on the top left to 'open my maps'.

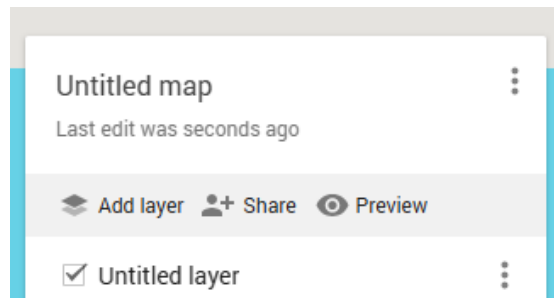


Click: Create a new map:

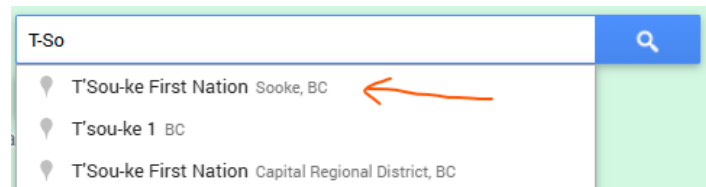


Give your map a title (Your name, Lummi 2019)

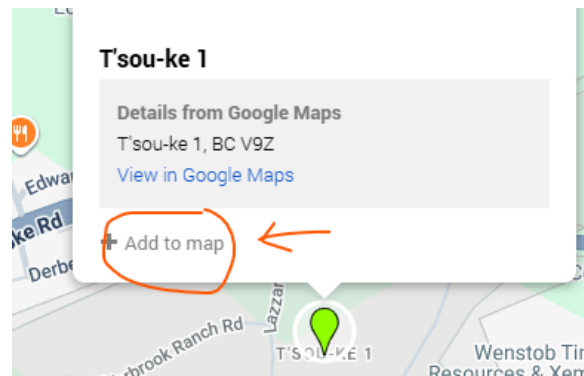
Name the first layer 'T'Sou-ke to Lummi'.



Type 'T-Sou-ke' into the search bar, and select 'T-Sou-ke First Nation Sooke, BC'.



Click 'add to map'

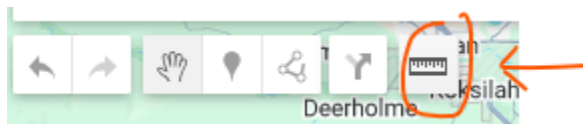


Do the same for each place the T'sou-ke paddlers visited en-route to Lummi:

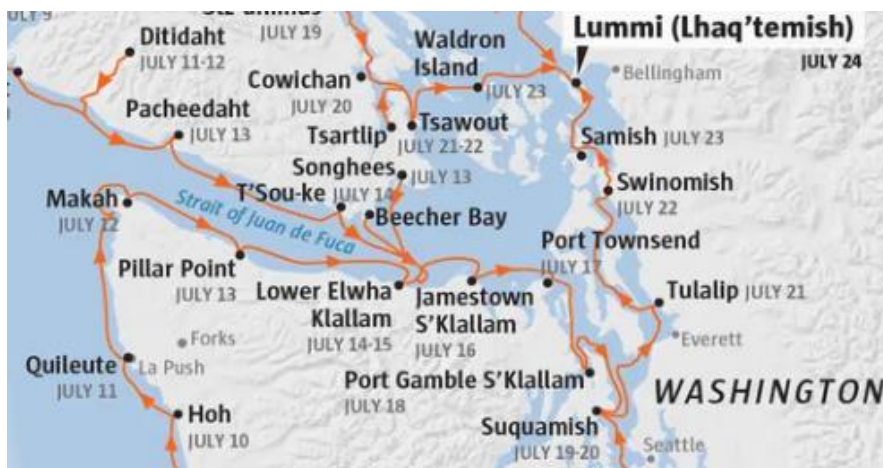
1. Lower Elwha (Klallam)	2. Jamestown (S'Klallam)	3. Port Townsend
4. Port Gamble (S'Klallam)	5. Suquamish	6. Tulalip
7. Swinomish	8. Samish	9. Lummi (Lhaq'temish)

Once all the locations are plotted, **zoom out** to view the whole map. Count 10 markers.

Now, Zoom in to see just T'Sou-ke and Lower Elwah. Measure distance.



Use this image to help plot a 'measure distance' line. Make sure you don't paddle through land. Record each leg of the journey in the table below.



			Distance (km)	Cumulative Distance (km)
From	T-sou-ke	to	Lower Elwah (Klallam)	
From	Lower Elwah (Klallam)	to	Jamestown (S'Klallam)	
From	Jamestown (S'Klallam)	to	Port Townsend	
From	Port Townsend	to	Port Gamble (S'Klallam)	
From	Port Gamble (S'Klallam)	to	Suquamish	
From	Suquamish	to	Tulalip	
From	Tulalip	to	Swinomish	
From	Swinomish	to	Samish	
From	Samish	to	Lummi	

In the table above, use two colours to highlight the longest leg and the shortest leg.

Total distance travelled:

Follow the instructions on the google classroom to upload your map.

**Lesson 8: Practice all the map tools.** Choose a Nation that travelled to Lummi.

Nation chosen to study:

Circle the Nation's location on this map:



On a chrome book, open Google Maps and <https://maps.fpcc.ca/>.

On Google Maps Measure the linear distance from Royal Bay Secondary School to the Nation.

Distance from RBSS to .....Nation =            km

Research the nation on <https://maps.fpcc.ca/>

Write down three things you learn about the Nation:

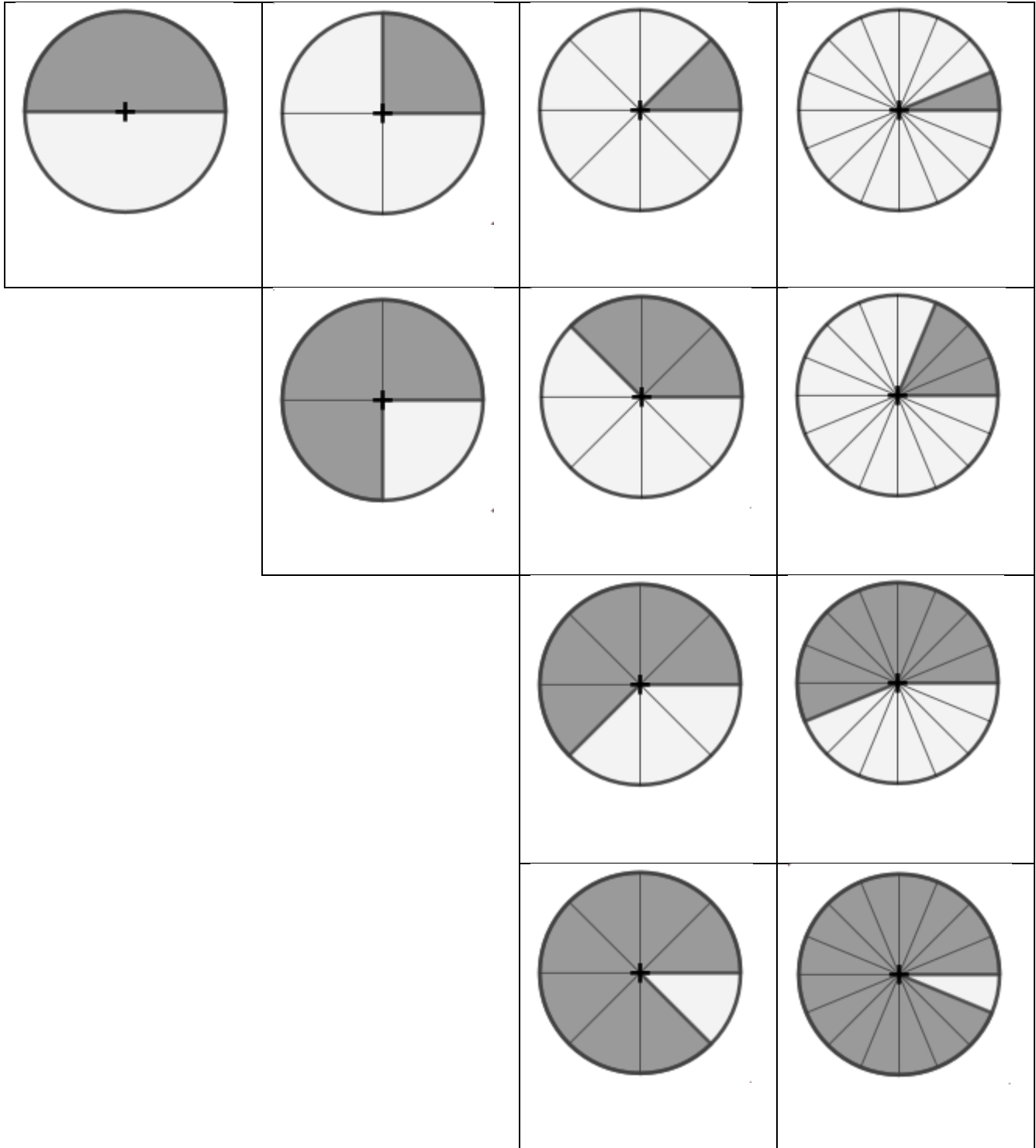
- 1.
- 2.
- 3.



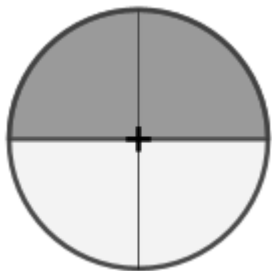
## Lesson 9: Fractions with even denominators

We read inches using whole numbers and fractions with even denominators.

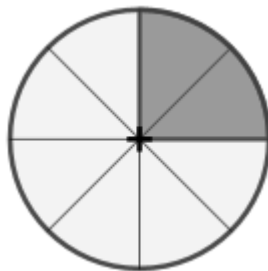
Let's review fractions. Name each of these fractions:



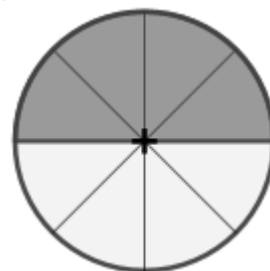
An even numerator with an even denominator can be simplified. Simplify these fractions fully:



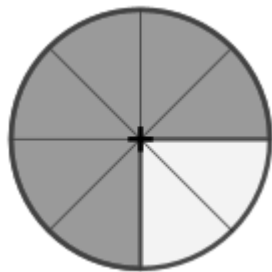
$$\frac{2}{4} =$$



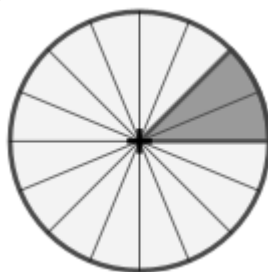
$$\frac{2}{8} =$$



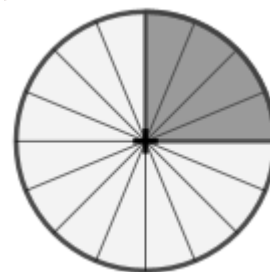
$$\frac{4}{8} =$$



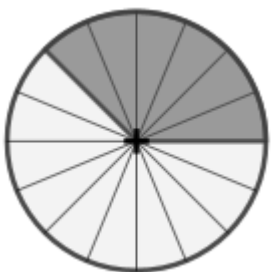
$$\frac{6}{8} =$$



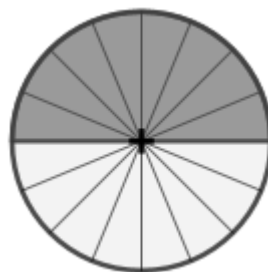
$$\frac{2}{16} =$$



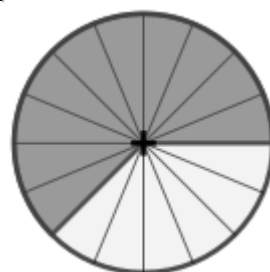
$$\frac{4}{16} =$$



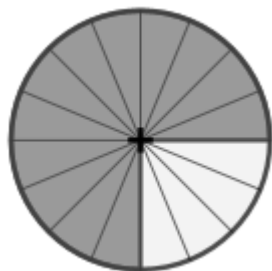
$$\frac{6}{16} =$$



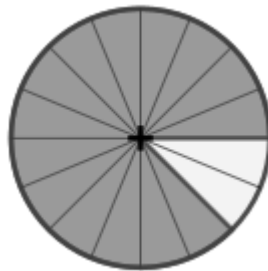
$$\frac{8}{16} =$$



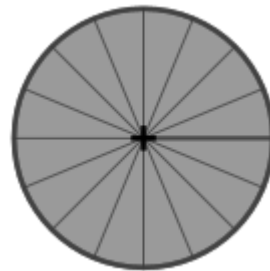
$$\frac{10}{16} =$$



$$\frac{12}{16} =$$



$$\frac{14}{16} =$$



$$\frac{16}{16} =$$

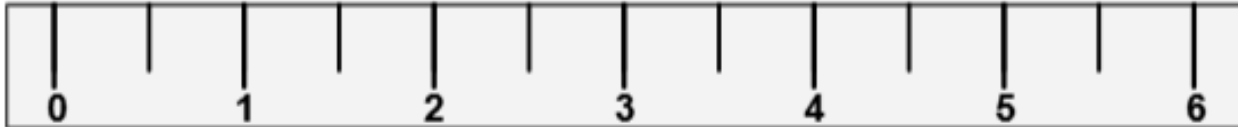
## Fractions of an Inch

Inches are read and written with whole numbers and fractions with denominator 2, 4, 8, or 16.

Occasionally when high precision is required, denominator 32 is used.

The simplified numerator of the fraction is always an odd number.

HALVES: locate  $3\frac{1}{2}$ "



QUARTERS: locate  $5\frac{3}{4}$ "



EIGHTHS: locate  $4\frac{3}{8}$ "



SIXTEENTHS: locate  $2\frac{5}{16}$ "

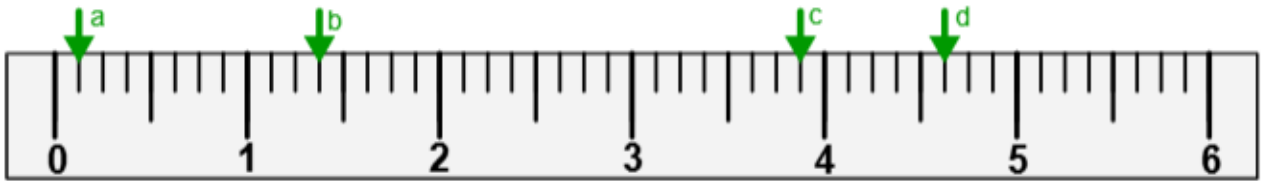


ALL THE MARKERS: locate  $1\frac{3}{4}$ "

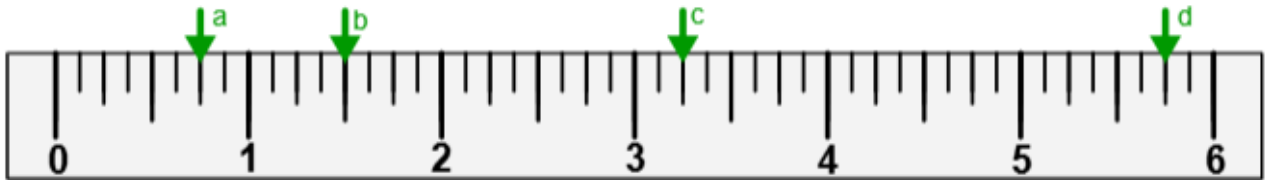


**Reading the ruler:**

Label the arrows with the correct whole number and number of  $\frac{1}{8}$ ths.



Label the arrows with the correct whole number and number of  $\frac{1}{2}$ s or  $\frac{1}{4}$ s.

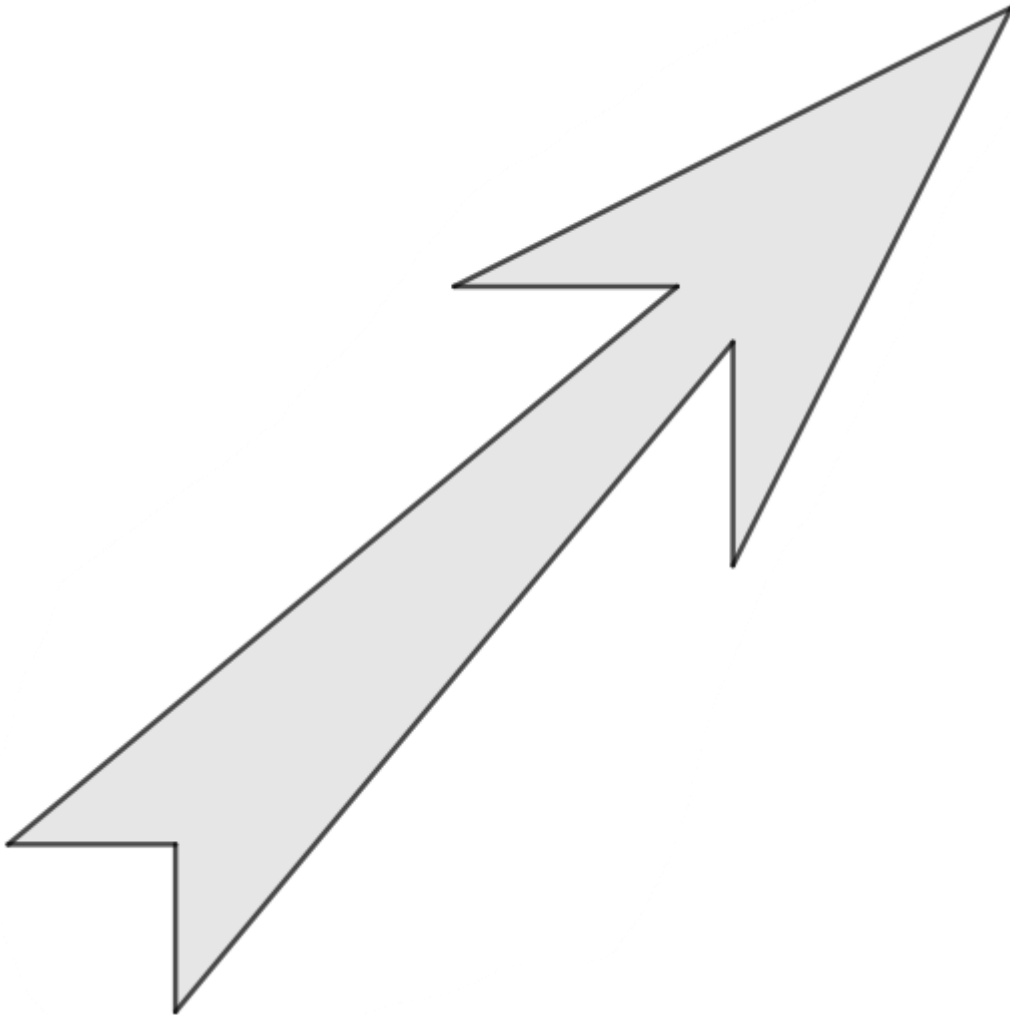


Label the arrows with the correct whole number and number of  $\frac{1}{2}$ s or  $\frac{1}{4}$ s or  $\frac{1}{8}$ ths.



This shape has one line of symmetry. Use a ruler to draw on the line of symmetry.

Measure each side of this shape to the nearest  $\frac{1}{8}$  of an inch. Write the length of each side on each side.



Add the sides together to find the perimeter of the arrow:

## Lesson 10: Fractions of an inch

These images are enlarged. Use three different colours.

Colour all the half inch markers one colour:  $(\frac{1}{2}" , 1\frac{1}{2}" , 2\frac{1}{2}" , 3\frac{1}{2}" , \dots)$



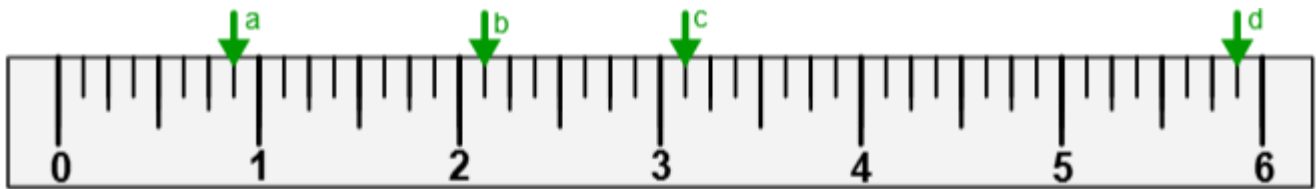
Colour all the quarter inch markers a second colour:  $(\frac{1}{4}" , \frac{2}{4}" , \frac{3}{4}" , \frac{4}{4}" , 1\frac{1}{4}" , \dots etc)$



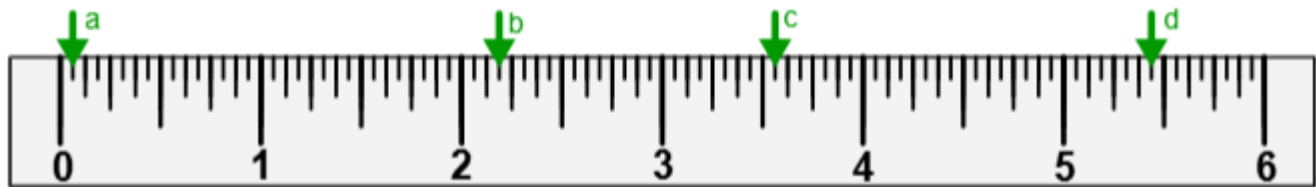
Colour all the eighth inch markers a third colour  $(\frac{1}{8}" , \frac{2}{8}" , \frac{3}{8}" , \frac{4}{8}" , \frac{5}{8}" , \frac{6}{8}" , \frac{7}{8}" , \frac{8}{8}" , 1\frac{1}{8}" , \dots etc)$



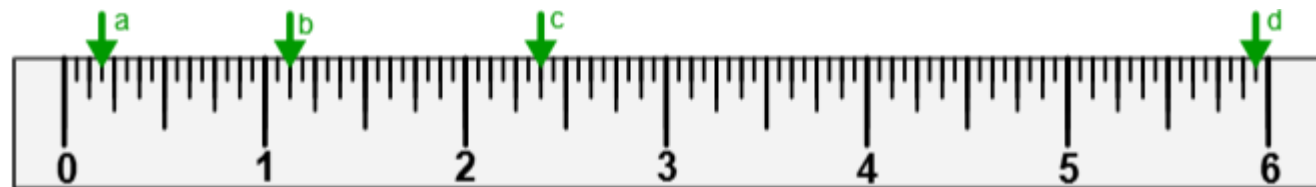
(a) Label the arrows with the correct whole number and number of  $\frac{1}{8}$ ths.



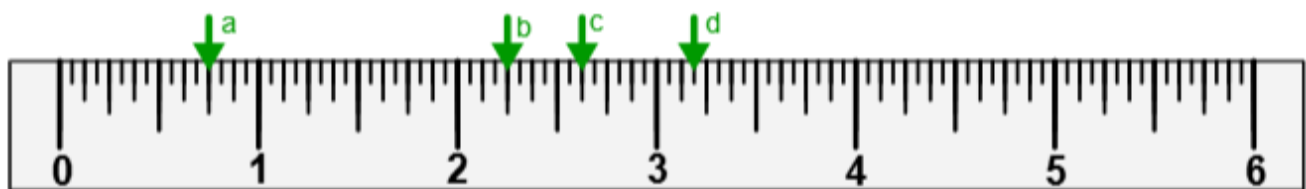
(b) Label the arrows with the correct whole number and number of  $\frac{1}{16}$ ths.



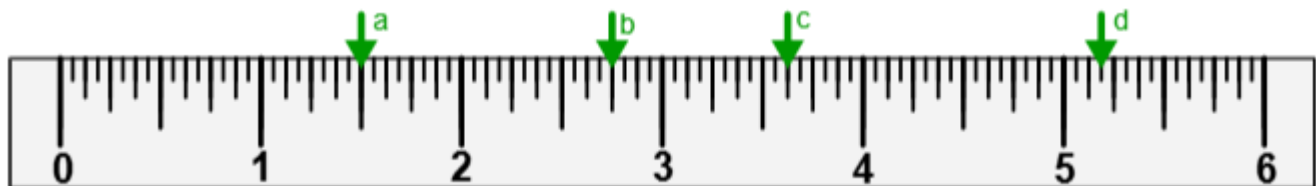
(c) Label the arrows with the correct whole number and number of  $\frac{1}{8}$ ths or  $\frac{1}{16}$ ths



(d) Label the arrows with the correct whole number and number of  $\frac{1}{4}$ s or  $\frac{1}{8}$ ths or  $\frac{1}{16}$ ths



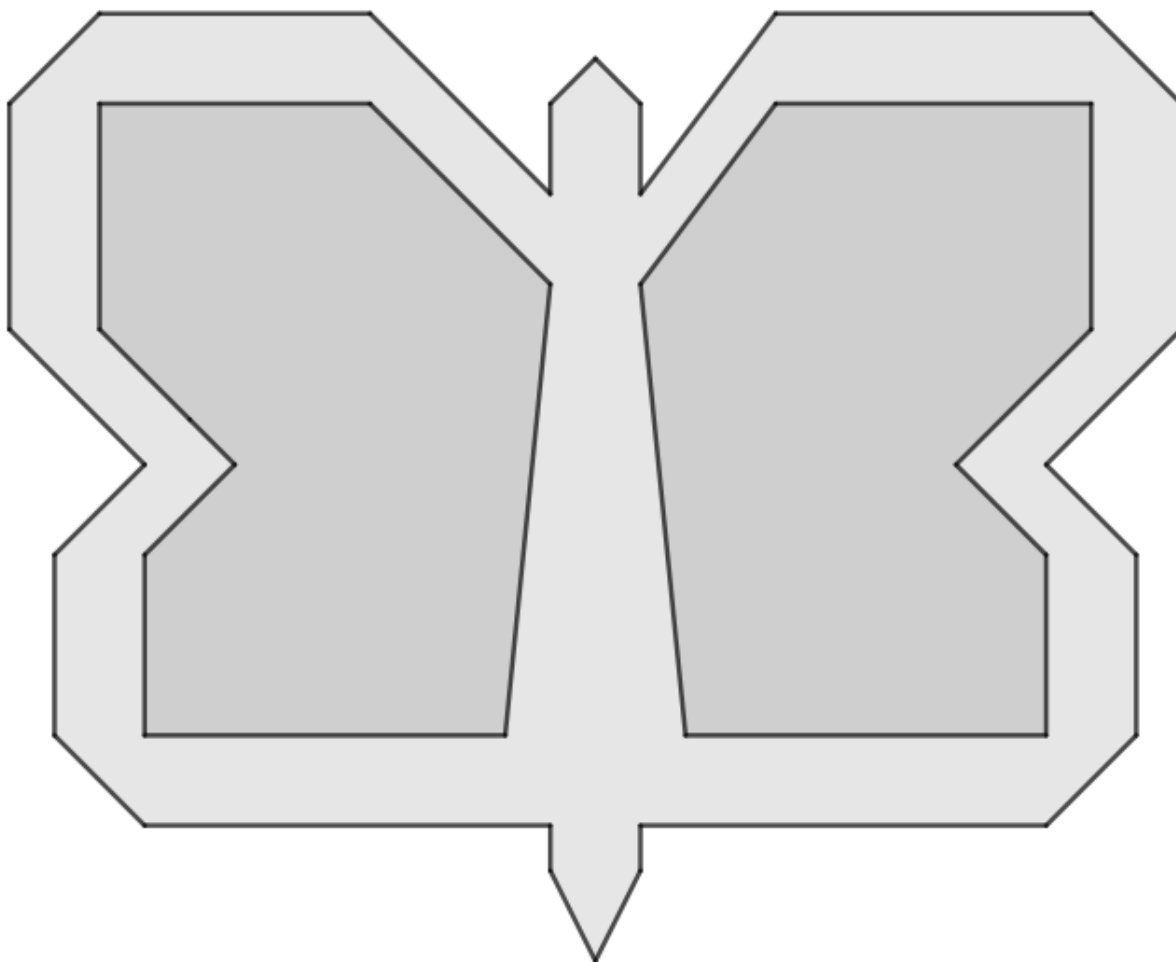
(e) Label the arrows with the correct whole number and simplified fraction.



This shape has one line of symmetry. Use a ruler to draw on the line of symmetry.

Measure each exterior side of this shape to the nearest  $\frac{1}{16}$ th of an inch. Write the length of each side on each side.

Use the symmetry to help.



Add the sides together to find the perimeter:

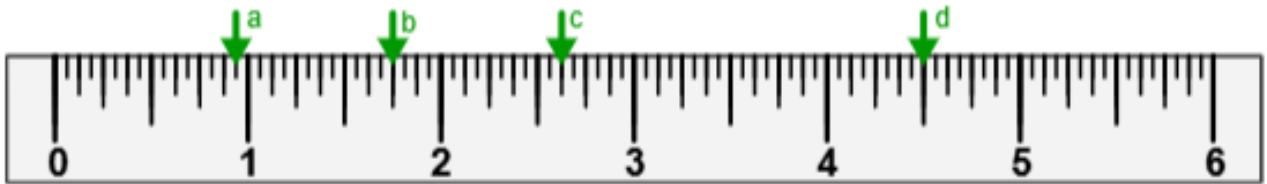
Add some antenna!

### Lesson 11: convert cm to inches

On each ruler one arrow points to a sixteenth's reading, another to an eighth's reading, another to a quarter's reading and one to a half's reading.

$$\square \frac{\square}{2}, \quad \square \frac{\square}{4}, \quad \square \frac{\square}{8}, \quad \square \frac{\square}{16},$$

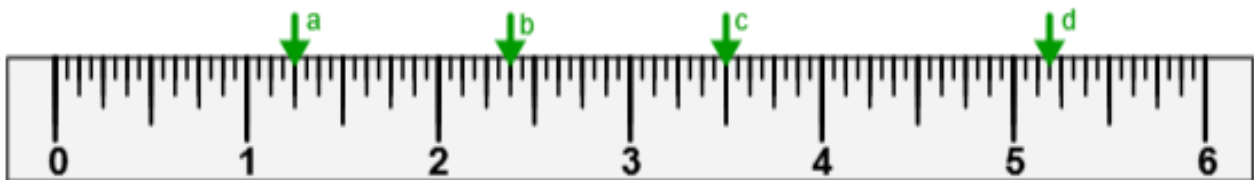
(a) Label the arrows with the correct whole number and whole number and simplified fraction.



(b) Label the arrows with the correct whole number and simplified fraction.



(c) Label the arrows with the correct whole number and simplified fraction.



### Decimals for cm, Fractions for inches

A cm is broken into ten equal parts called mm. Since  $\frac{1}{10} = 0.1$  it is easy to use the decimal system.

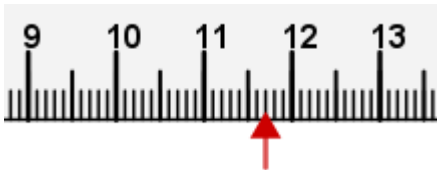
An inch is generally broken into 16 equal parts. Since  $\frac{1}{16} = 0.0625$  it is difficult to use the decimal system.

Write these cm measurements as fractions and as decimals:

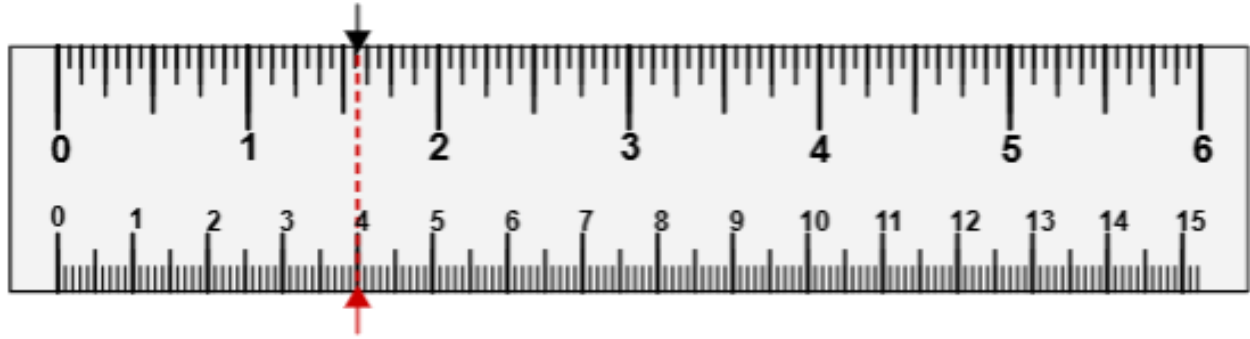
Example:



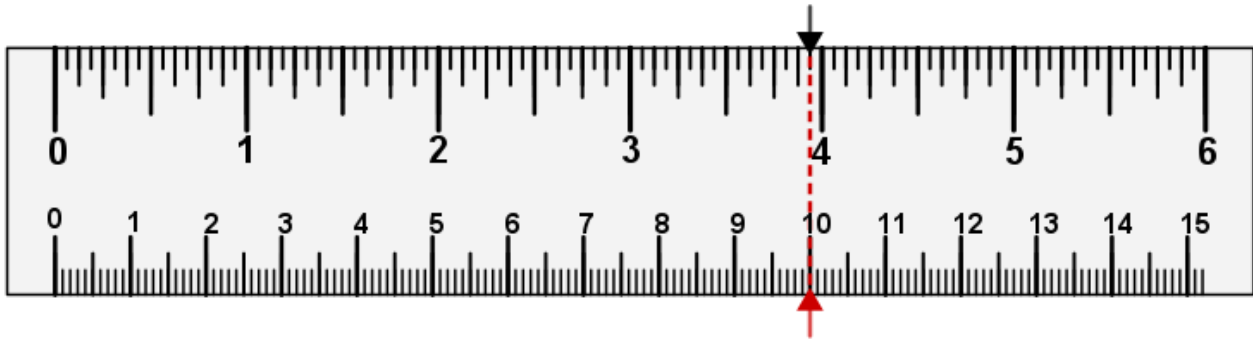
$$3\frac{5}{10} \text{ cm} = 3.5 \text{ cm}$$



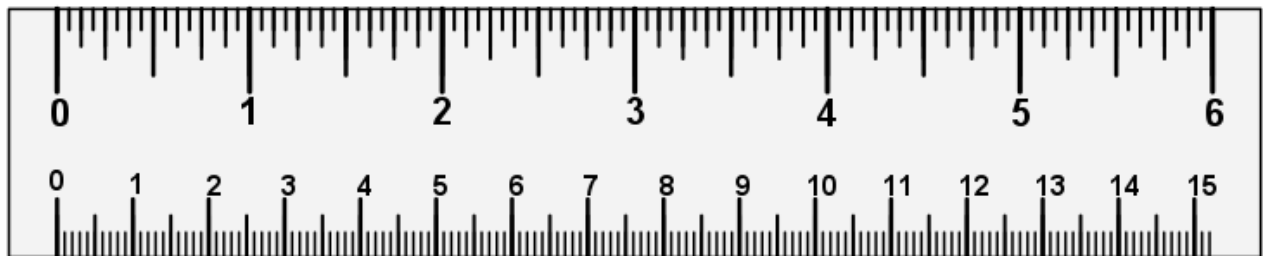
Use the ruler to convert 4 cm to inches. 4 cm = \_\_\_\_\_ " (Use a whole number and a fraction).



Use the ruler to convert 10 cm to inches. 10 cm = \_\_\_\_\_ "



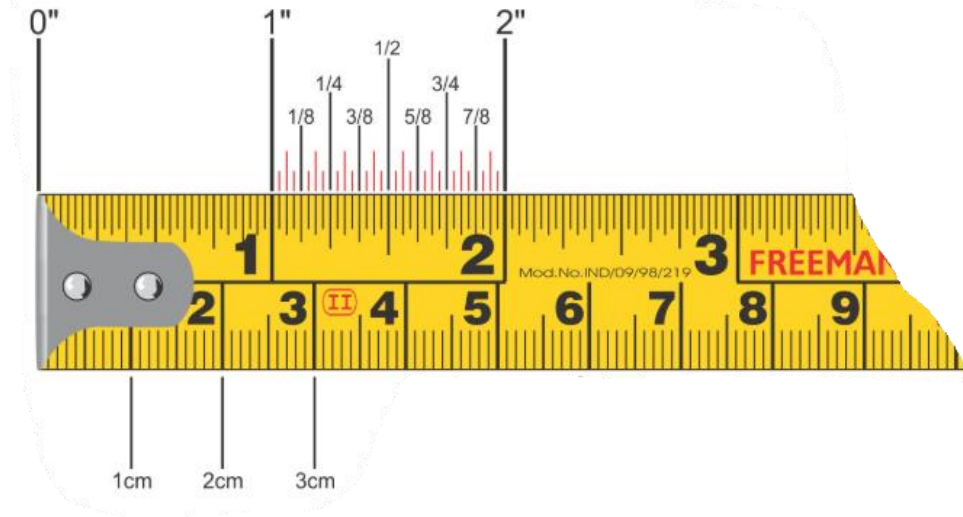
Draw a line across the ruler to convert 6.5 cm to inches. 6.5 cm = \_\_\_\_\_ "



Draw a line across the ruler to convert 5" to cm. 5" = \_\_\_\_\_ cm



## Measuring tape

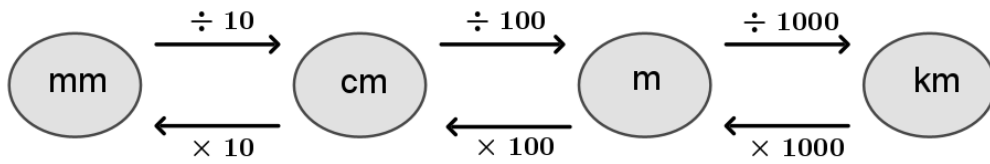


Use a cm/inches measuring tape to measure these items in both cm and inches.

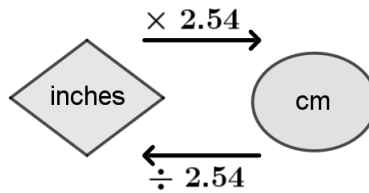
Item to measure	cm (eg 24.5 cm)	inches (eg $7\frac{3}{8}$ ")
Door width		
Your shoe		

## Conversions

Metric to Metric:



Imperial to Metric:



---

25 inches = cm

---

150 cm = inches

---

150 cm = meters

---

4 m = cm

---

58 mm = cm

---

48 inches = cm

---

100 cm = inches

---

4 m = inches

---

120 inches = meters

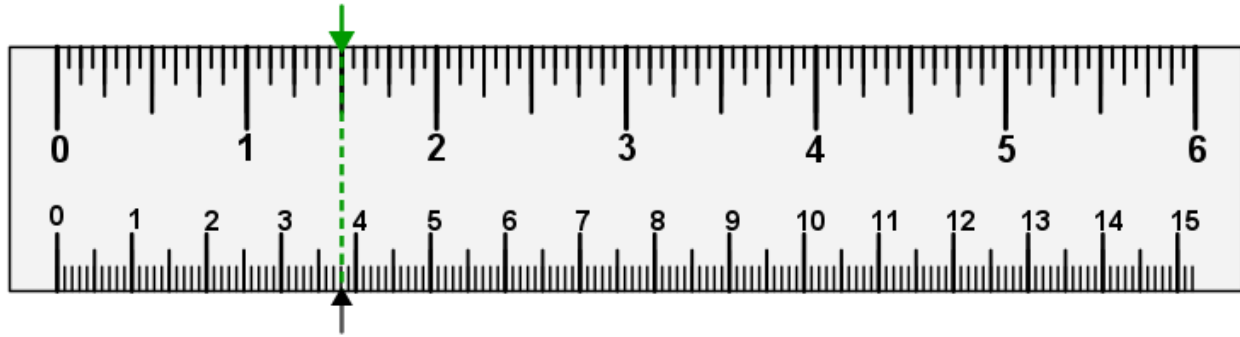
---

1 km = inches

---

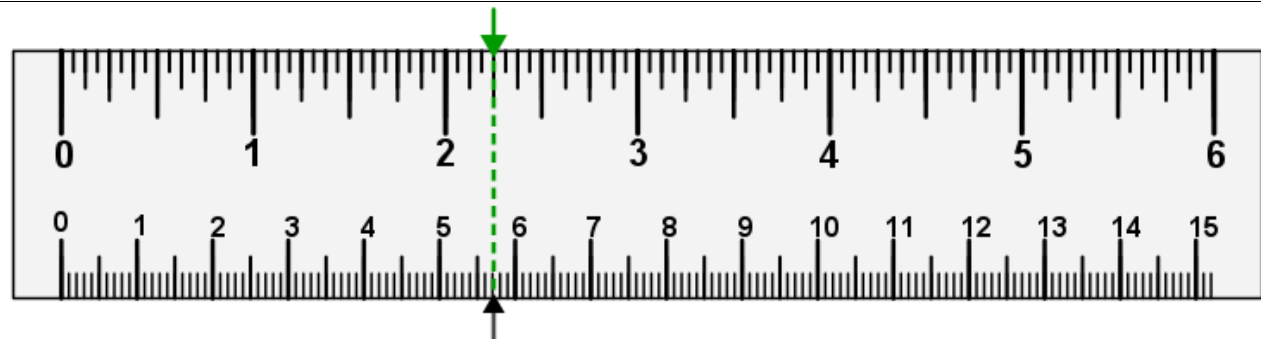
**Lesson 12: convert cm to inches, yards to meters**

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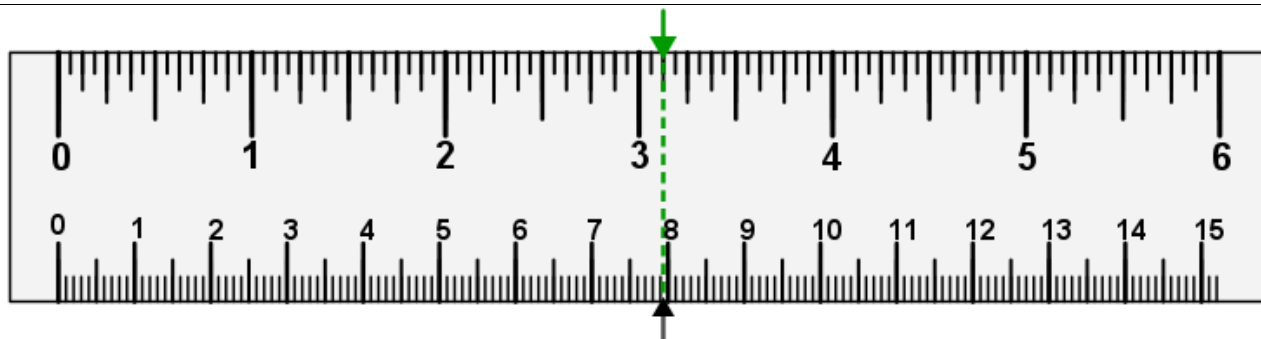
This ruler shows that 1 inches  $\approx$  2.5 cm

---



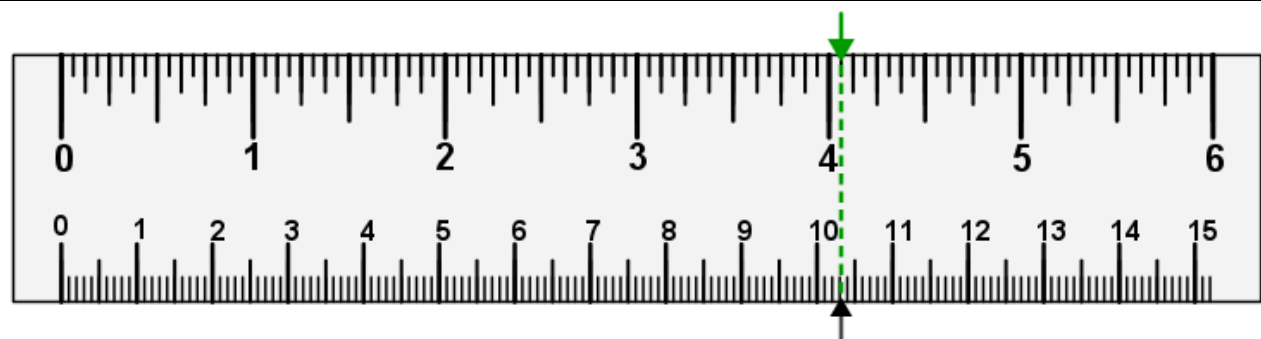
This ruler shows that 2 inches  $\approx$  5 cm

---



This ruler shows that 3 inches  $\approx$  7.5 cm

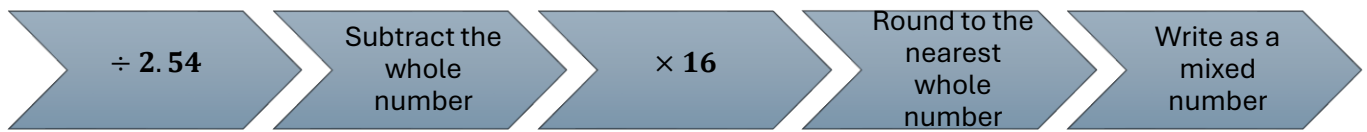
---



This ruler shows that 4 inches  $\approx$  10 cm

---

**Convert from cm to inches: using a calculator and ending with a mixed number.**



Example: convert 168 cm to inches:

$168 \div 2.54$ $= 66.14173 \dots$	$66.14173 \dots - 66$ $= 0.14173 \dots$	$0.14173 \dots \times 16$ $= 2.2677 \dots$	$2.2677 \dots \approx 2$	$168 \text{ cm} = 66 \frac{2}{16} \text{''}$
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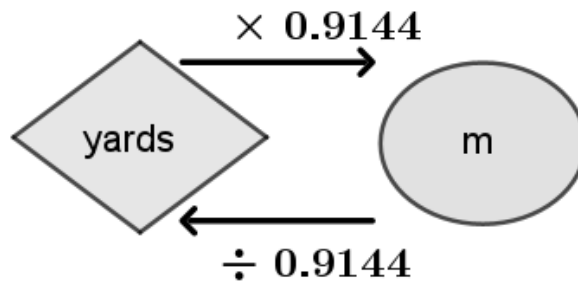
We have one final step – the fraction  $\frac{2}{16}$  can be simplified to  $\frac{1}{8}$

$$168 \text{ cm} = 66 \frac{1}{8} \text{''}$$

Convert cm to inches, writing your answer as a mixed fraction:

cm	cm $\div$ 2.54	subtract whole part	multiply 16	round	mixed fraction
200 cm					
80 cm					
140 cm					
235 cm					

Yards and Meters [image source](#)



In other words, 1 yard is approximately 91.4 cm.

A cubic yard is often used to measure construction materials such as gravel or soil.

One cubic yard of soil:



<https://youtu.be/H6EDuwaRuiY?si=9gR2szwkzOA7da94>

## 1 cubic yard

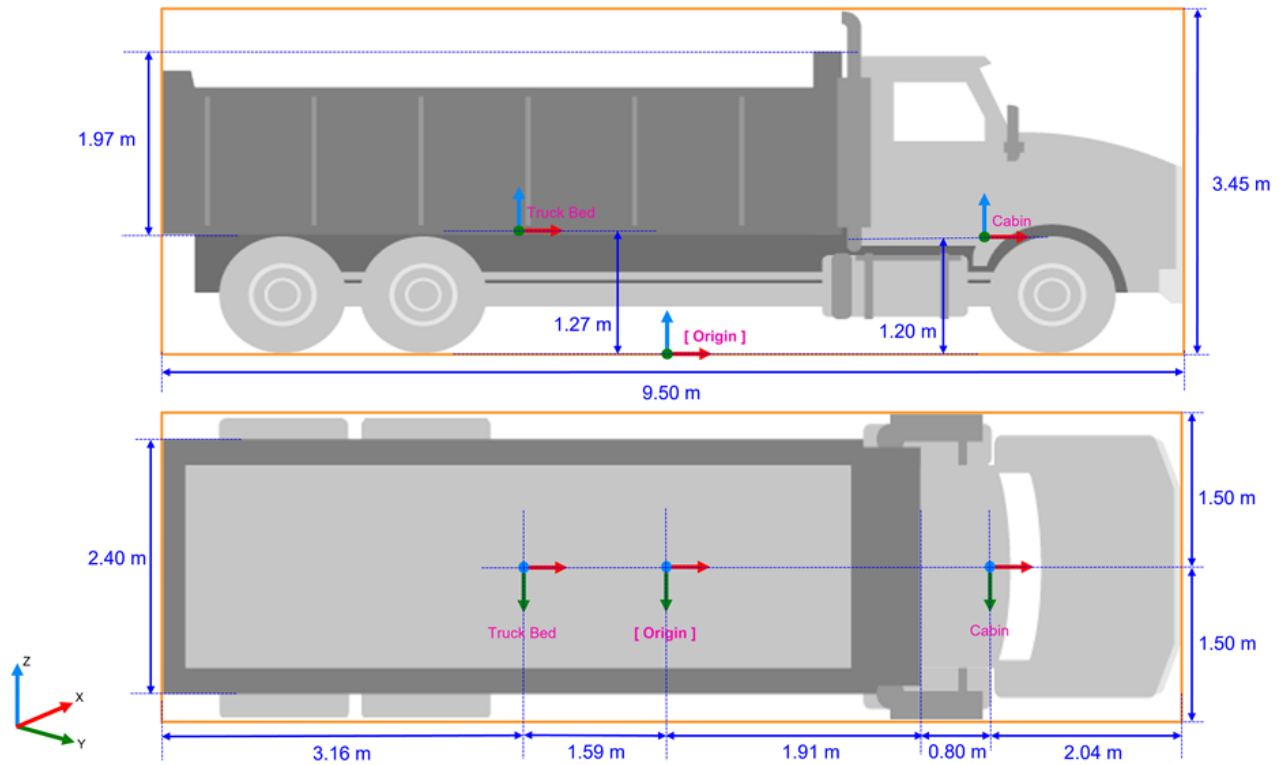
In groups of 4 build the outline of 1 cubic yard with string.

- Collect a tape measure, string and chalk.
- Draw a square yard with chalk on the sidewalk.
- Measure string a little longer than 4 yards of string for the top of the cube.
- Mark each yard (corner) on the top string with felt pen.
- Tie string on each 1 yard marker for each vertical edge (each piece should be longer than 1 yard).
- Measure 1 yard on each vertical string and mark it with felt pen.
- Hold the cubic yard in place by putting a foot on the 1 yard mark on the floor and holding the four corners.
- Take a picture of the teamwork!

A little bit like this... Image generated by AI.



**Dump truck – how many cubic yards? [Image source](#)**

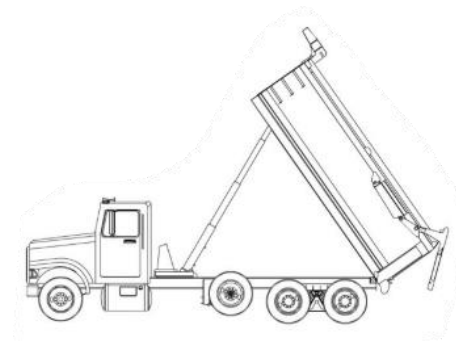


Subtract 20 cm from each dimension to allow for the walls and lower lip of the container.

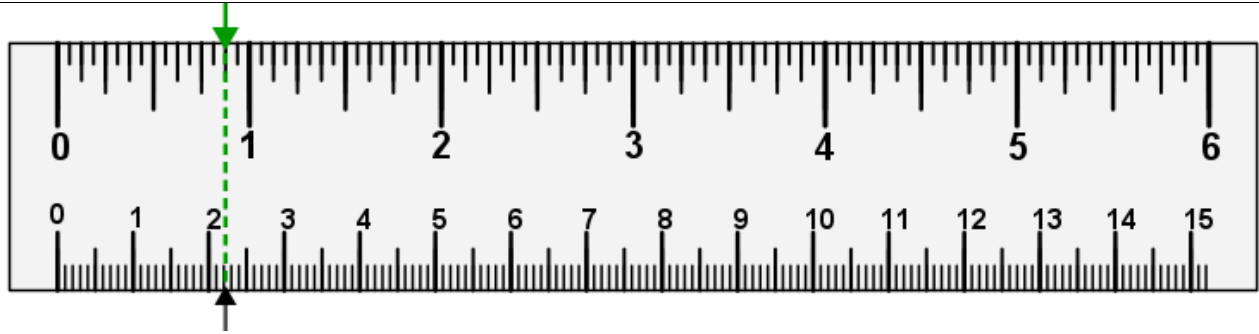
Width of the dump truck container =	m =	yards
Length of the dump truck container =	m =	yards
Height of the dump truck container =	m =	yards

Volume of the dump truck container in cubic yards

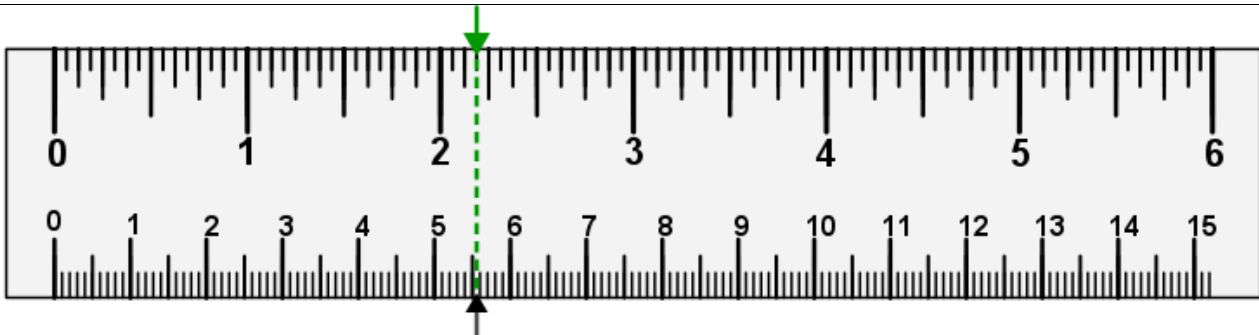
Length × Width × Height = \_\_\_\_\_ =yards<sup>3</sup>



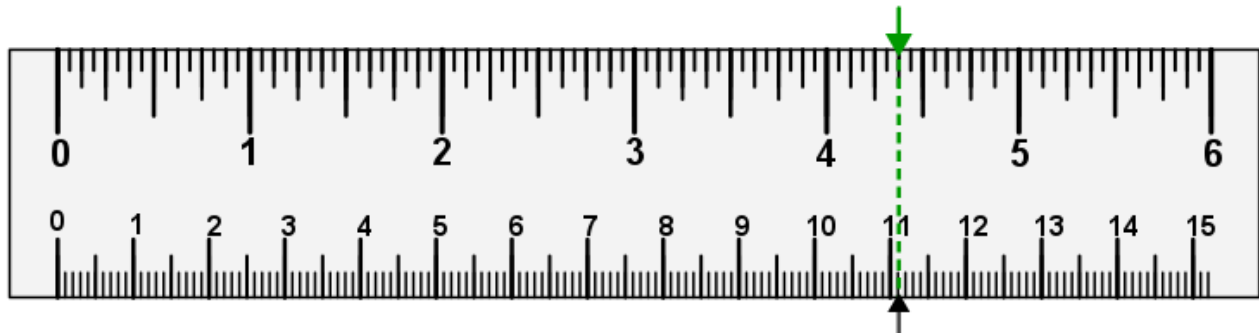
**Lesson 13: Convert cm to inches; yard to meters; miles to km**



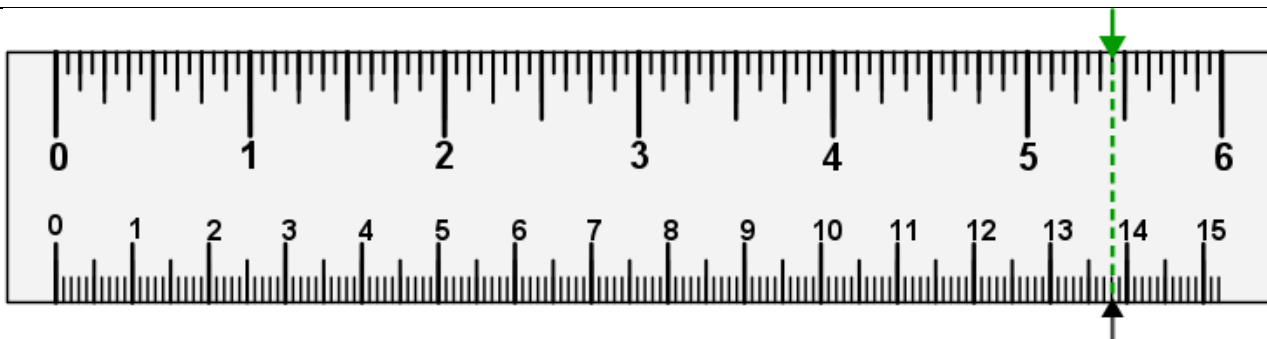
This ruler shows that 1 inches  $\approx$  2.5 cm



This ruler shows that 1 inches  $\approx$  2.5 cm

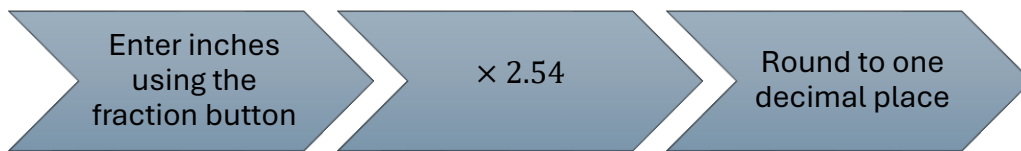


This ruler shows that 1 inches  $\approx$  2.5 cm



This ruler shows that 1 inches  $\approx$  2.5 cm

Convert from inches to cm, starting with a fraction ending with a decimal



**Example:** Convert  $36\frac{1}{4}$ " to cm

Your fraction button may look like one of these:



$36\frac{1}{4} \times 2.54 = 92.075$	$92.075 = 92.1$ (correct to 1 decimal place)
--------------------------------------	--

**Or**

$36 + 1 \div 4 = 36.25$	$36.25 \times 2.54 = 92.075$	$92.075 = 92.1$ (correct to 1 decimal place)
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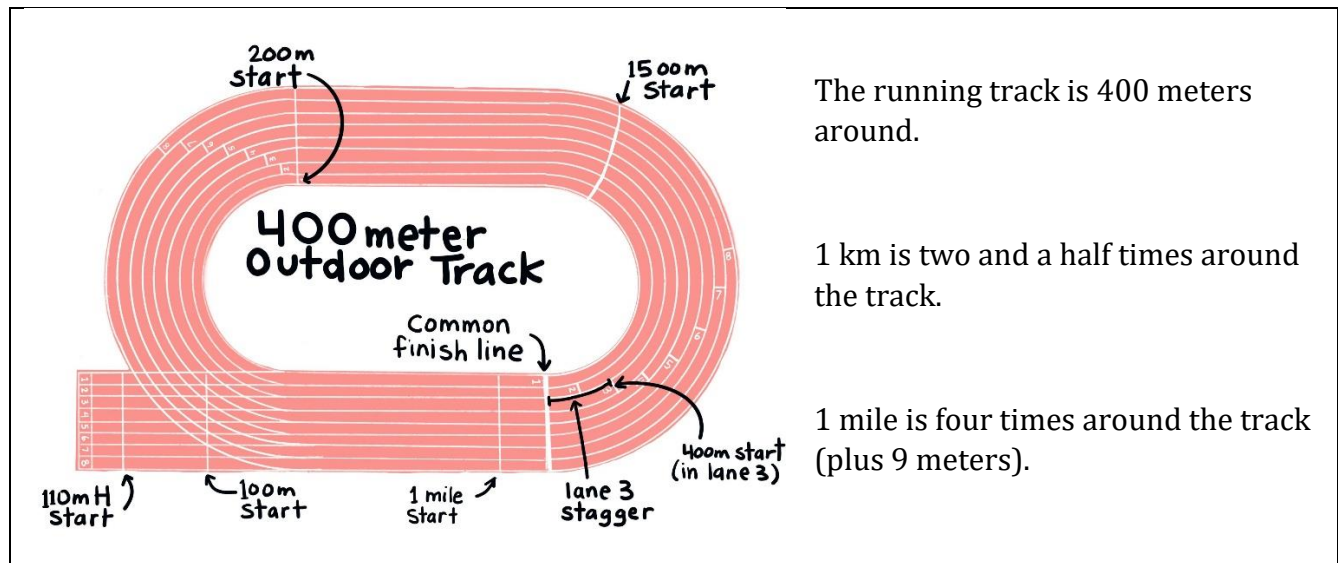
$$36\frac{1}{4}" = 92.1 \text{ cm}$$

Convert these inches to cm using one of the techniques above:

inches	$\times 2.54$	round to 1 decimal place
$5\frac{7}{8}"$		
$23\frac{5}{16}"$		
$72\frac{1}{2}"$		
$5\frac{3}{16}"$		

## Kilometers and miles

Only a few countries use miles for road distances, including the USA and the UK.

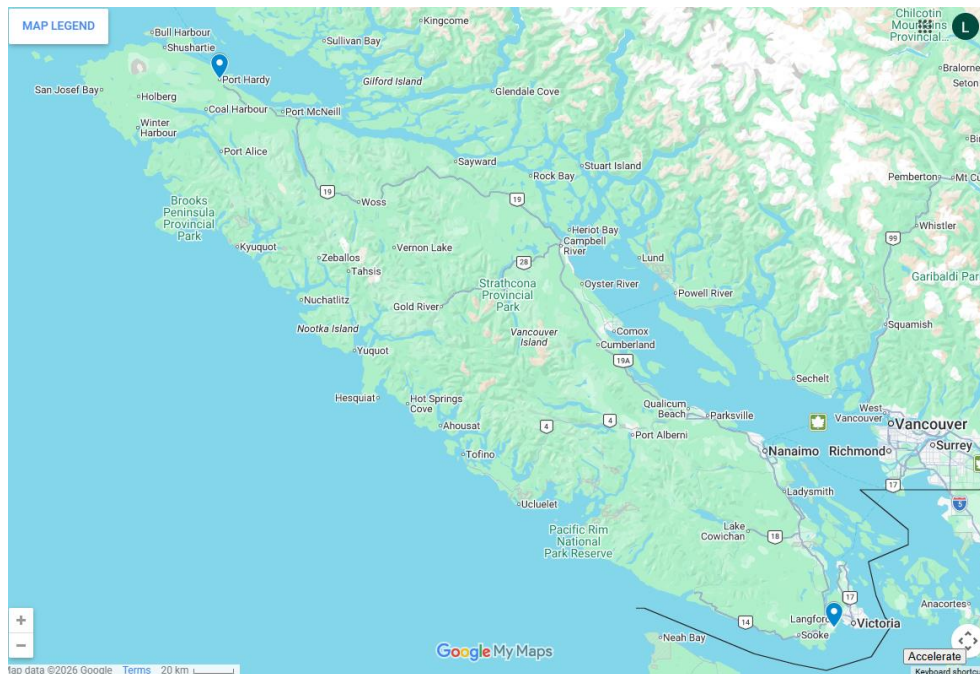


## Vancouver Island Road Trip

A friend/relative from the USA is visiting you in Victoria for a few days. They wish to drive to Port Hardy and back and to make some overnight stops on the way up/way down/both.

You are to decide where to take them. You can go somewhere off-route if you choose, such as Port Alberni.

Use the trip planner on the next page.



Day/Night 1:

From	To	km	miles
Victoria/your home			
Reason for this destination:			

Day/Night 2:

From	To	km	miles
Reason for this destination:			

Day/Night 3:

From	To	km	miles
Reason for this destination:			

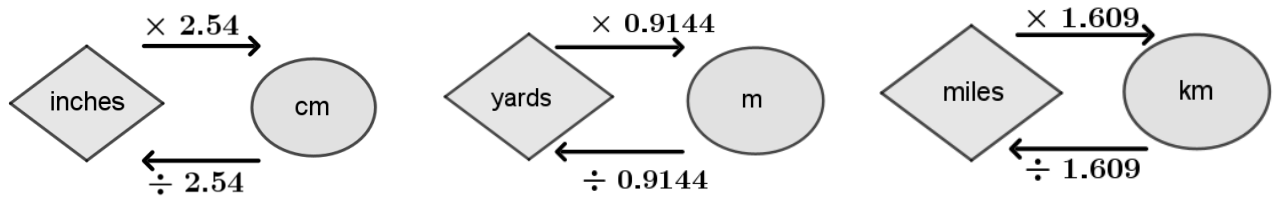
Day/Night 4:

From	To	km	miles
Reason for this destination:			

Day 5:

From	To	km	miles
	Victoria		

## Conversions



Use the conversion factors above to convert these length measurements:

---

25 inches = \_\_\_\_\_ cm

---

6 yards = \_\_\_\_\_ meters

---

24 miles = \_\_\_\_\_ km

---

\_\_\_\_\_ inches = 120 cm

---

\_\_\_\_\_ yards = 100 meters

---

\_\_\_\_\_ miles = 50 km

---

72 inches = \_\_\_\_\_ meters

---

5000 yards = \_\_\_\_\_ km

---

\_\_\_\_\_ inches = 2 meters

---

\_\_\_\_\_ yards = 5 km

---

Lesson 14: review

The test will include these factors and be graded as follows:

Section 1: Measuring and calculating perimeter with cm and mm

Maximum grade: P

Section 2: Measuring and calculating perimeter with inches

Measure the sides to the nearest 16th: P, explain add up with the fractions: X

Section 3: Reading the fractions on a ruler, all together

One by one, P; all together, explain and simplified fractions: X

Section 4: Converting between the metric and imperial system

One by one, P; explain several conversions at once: X

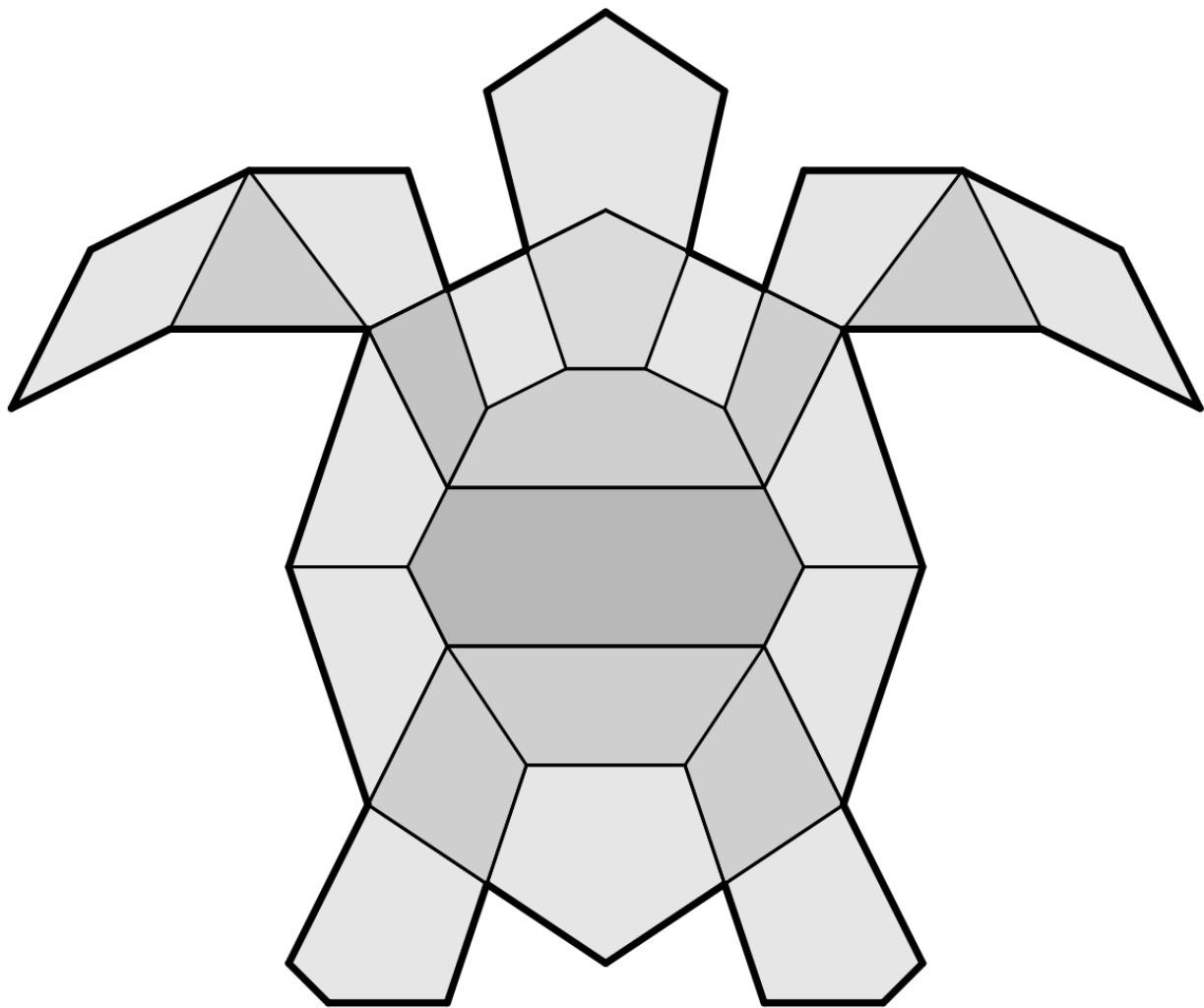
Section 1	Section 2	Section 3	Section 4
E D P	E D P X	E D P X	E D P X

REVIEW Section 1: Measuring perimeter correct to the nearest mm.

(1a) Draw a line of symmetry on the turtle. Use a ruler.

(1b) Measure the outside edges of this shape using cm and mm.

(1c) Calculate the perimeter of the turtle.

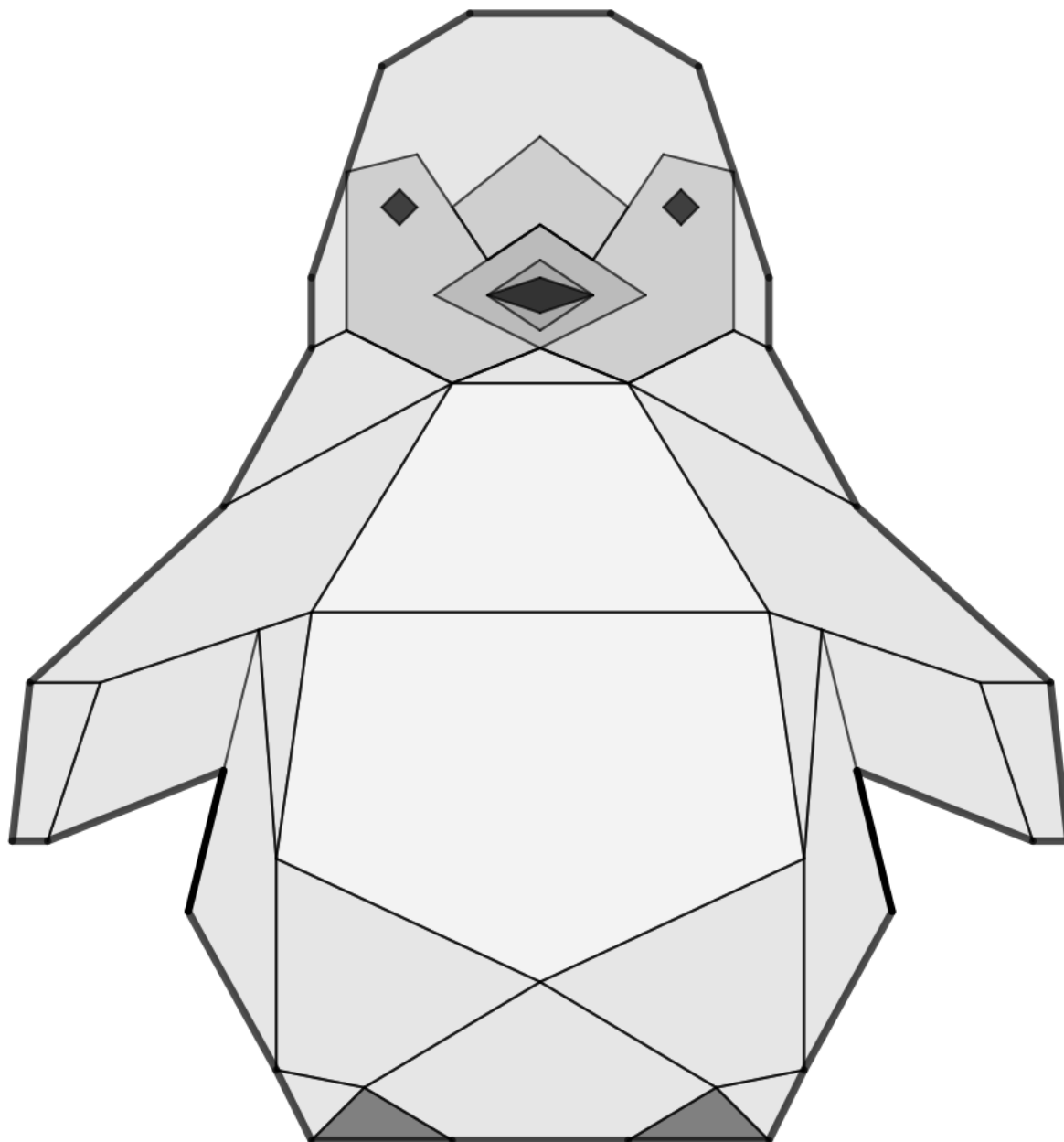


REVIEW Section 2 Measuring perimeter correct to the nearest  $1/16^{\text{th}}$  of an inch

(2a) Draw a line of symmetry on the penguin. Use a ruler.

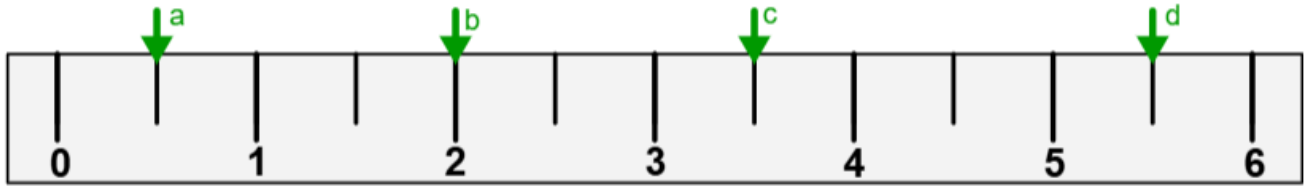
(2b) Measure the outside edges of the penguin using inches. Write each side as a whole number and a fraction with denominator 16.

(2c) Calculate the perimeter of the shape. Show your non-calculator working.

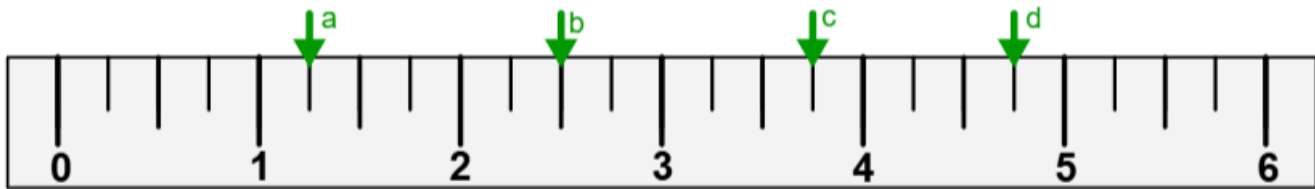


REVIEW Section 3: Reading the inches ruler  
Write the position of each arrow on each ruler.

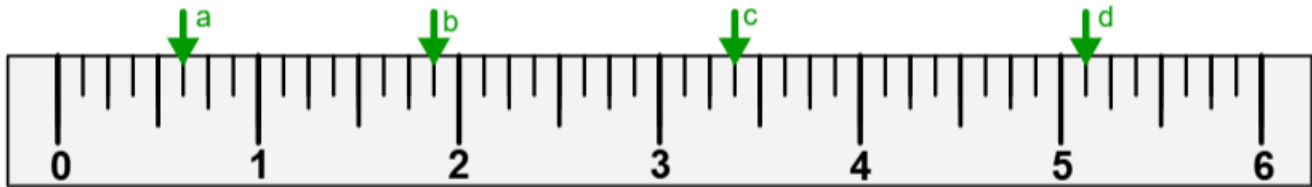
WHOLE and HALVES:



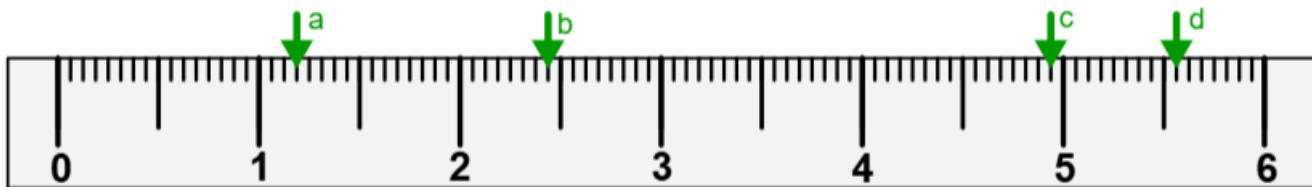
QUARTERS and HALVES:



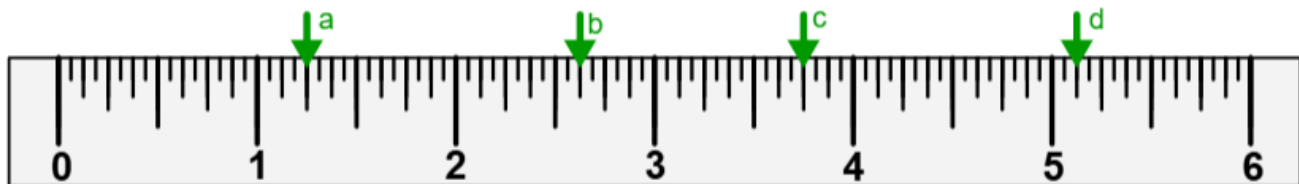
EIGHTHS:



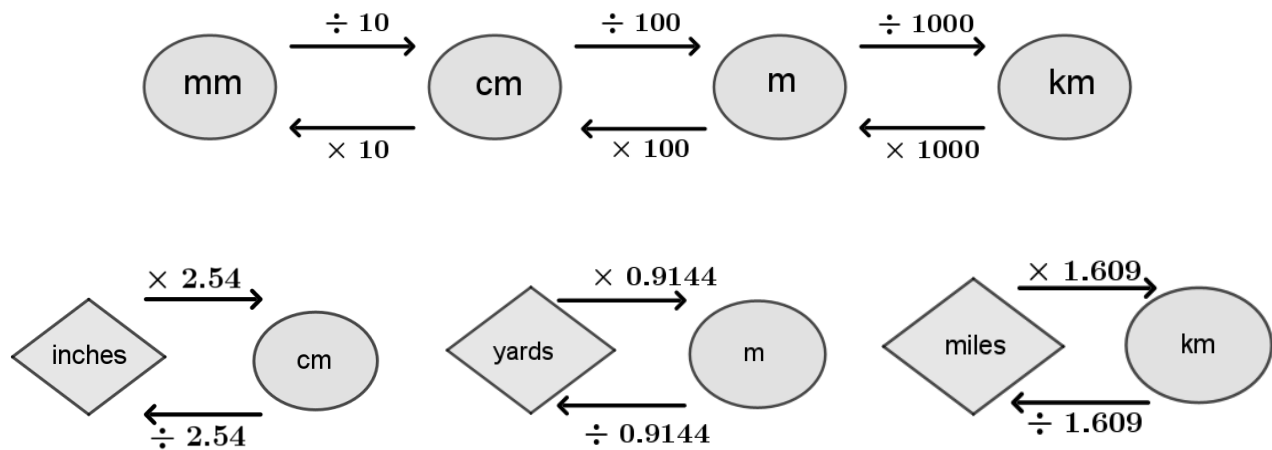
SIXTEENTHS:



READ each arrow and write with a whole number and the simplest fraction:



REVIEW Section 4: Unit of length Conversions.



- \_\_\_\_\_
- 45 mm = \_\_\_\_\_ cm
- \_\_\_\_\_
- 150 cm = \_\_\_\_\_ m
- \_\_\_\_\_
- 3.8 m = \_\_\_\_\_ cm
- \_\_\_\_\_
- 5.4 km = \_\_\_\_\_ m
- \_\_\_\_\_
- 0.3 m = \_\_\_\_\_ mm
- \_\_\_\_\_
- 30 inches = \_\_\_\_\_ cm
- \_\_\_\_\_
- 10 meters = \_\_\_\_\_ yards
- \_\_\_\_\_
- 250 cm = \_\_\_\_\_ inches
- \_\_\_\_\_
- 32 km = \_\_\_\_\_ miles
- \_\_\_\_\_

Convert 5.3 meters to inches. Explain how you do it.