

Name: _____

Date: _____

Maths Year 7, Spring 1

Getting to know your ruler

Ruler.1/10

You will need your ruler for this worksheet.

Types of ruler

How long is the ruler? 30cm 15cm

Can you measure in inches on this ruler? Yes No



How long is the ruler? 30cm 15cm

Can you measure in inches on this ruler? Yes No



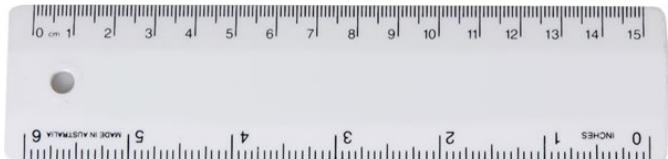
How long is the ruler? 30cm 15cm

Can you measure in inches on this ruler? Yes No



How long is the ruler? 30cm 15cm

Can you measure in inches on this ruler? Yes No



How long is the ruler? 30cm 15cm

Can you measure in inches on this ruler? Yes No



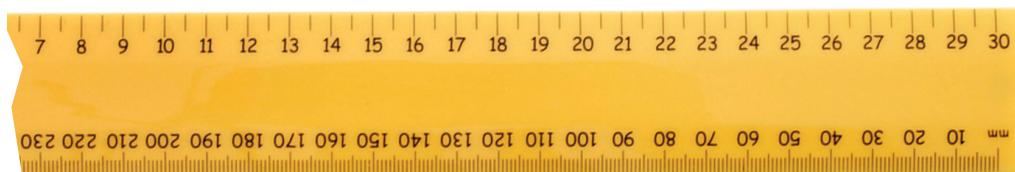
Look at your ruler. What kind of ruler do you have?

Is it... 30cm 15cm Broken into a small piece

Can you measure in inches on your ruler? Yes No

Broken rulers

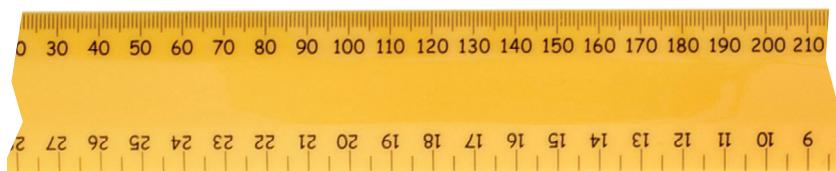
This ruler is broken into a small piece.



What advice would you give to someone wanting to use it?

.....
.....

This ruler is broken into an even smaller piece.

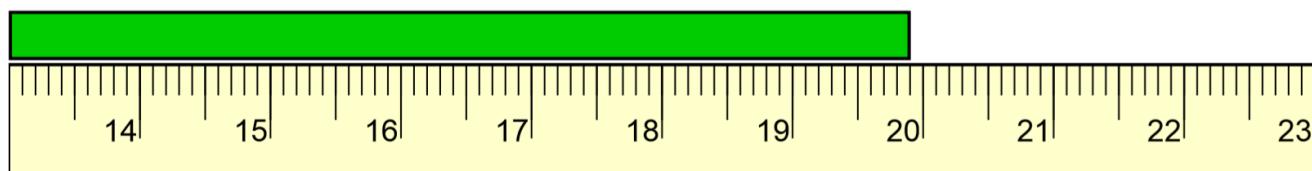


What advice would you give to someone wanting to use it?

.....
.....

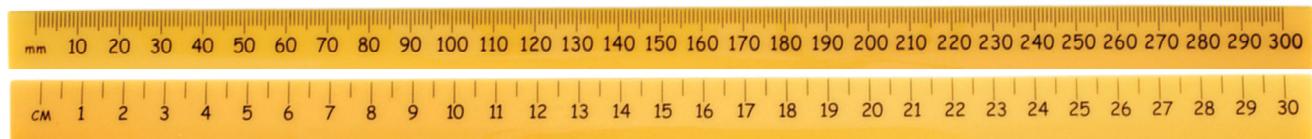
Measure the length of the green bar.

.....cm



Centimetres and Millimetres

You can use these two rulers to help turn measurements from cm into mm and mm into cm.



1cm =mm	2cm =mm	3cm =mm	10cm =mm
17cm =mm	23cm =mm	24cm =mm	30cm =mm
50mm =cm	80mm =cm	120mm =cm	270mm =cm
10mm =cm	9mm =cm	8mm =cm	7mm =cm

Name: _____

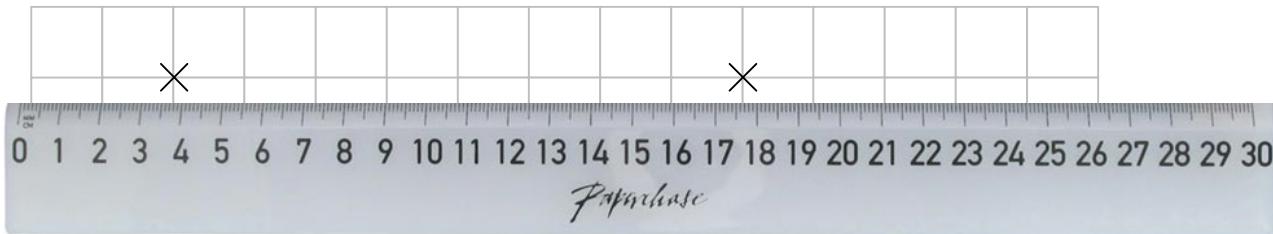
Date: _____

Maths Year 7, Spring 1

Holding and positioning your ruler Ruler.2/10

What's wrong?

Someone is trying to draw a straight line between the two crosses.

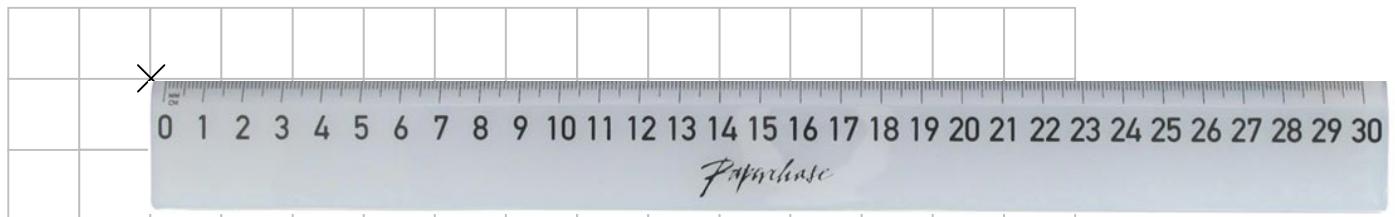


Describe what is wrong with the way they have positioned the ruler.

.....

.....

Someone is trying to draw a 5cm line starting at the cross.



Describe what is wrong with the way they have positioned the ruler.

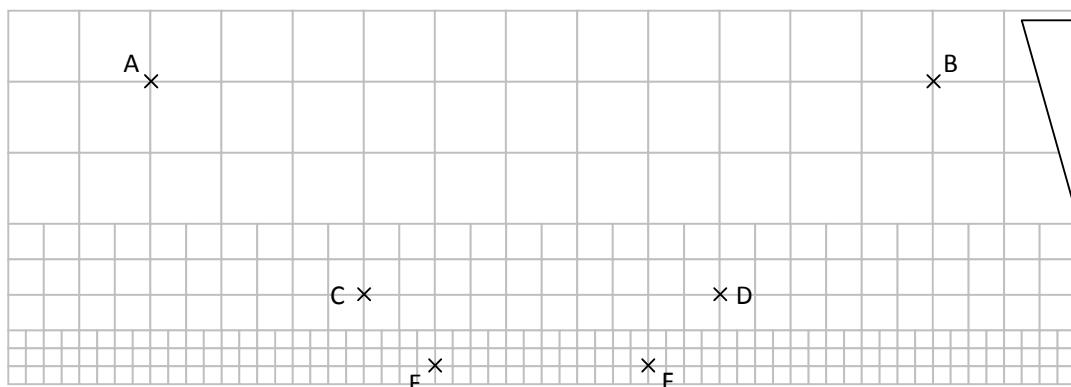
.....

.....

Join the Crosses

Use a ruler and a pencil to draw a NEAT, STRAIGHT, ACCURATE line from...

...A to B ...C to D ...E to F ...A to E ...B to F



Bonus questions!

What shape is this? Draw the symbols for parallel lines and equal sides.

Now show the teacher!

This page is only if the teacher says that your work wasn't neat enough the first time.

You **don't** have to do anything on this page **unless** the teacher gives you extra practice!

Use a ruler and a pencil to draw a NEAT, STRAIGHT, ACCURATE line from...

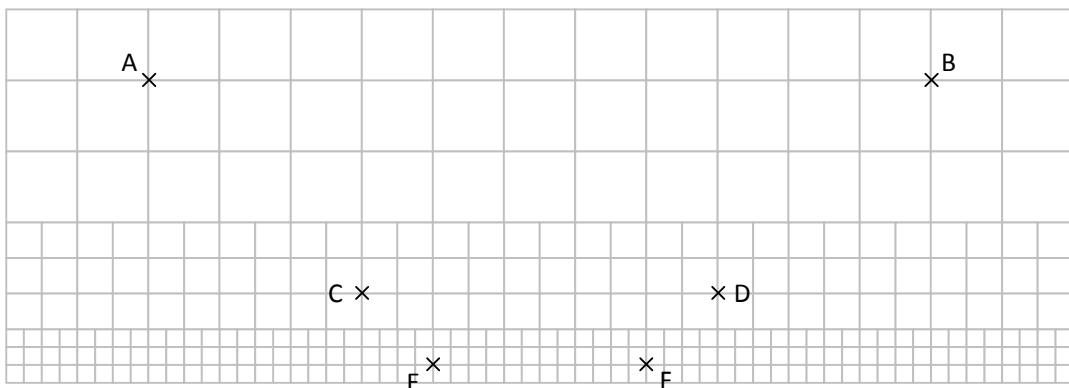
...A to B

...C to D

...E to F

...A to E

...B to F



Use a ruler and a pencil to draw a NEAT, STRAIGHT, ACCURATE line from...

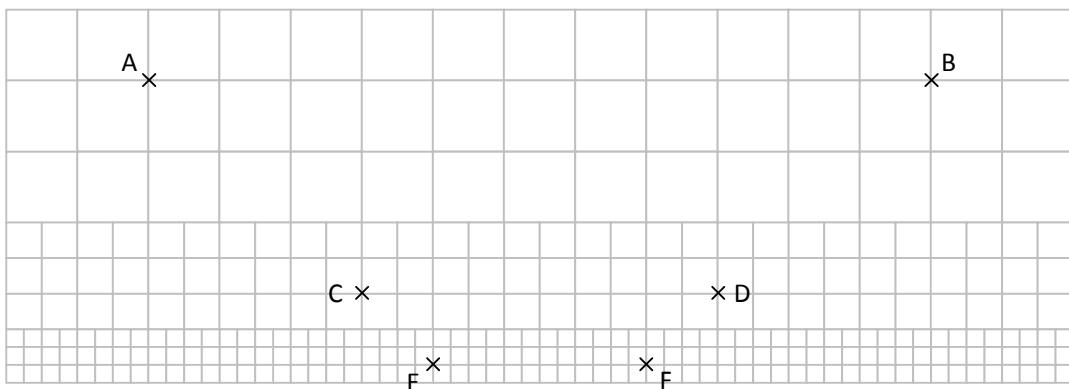
...A to B

...C to D

...E to F

...A to E

...B to F



Use a ruler and a pencil to draw a NEAT, STRAIGHT, ACCURATE line from...

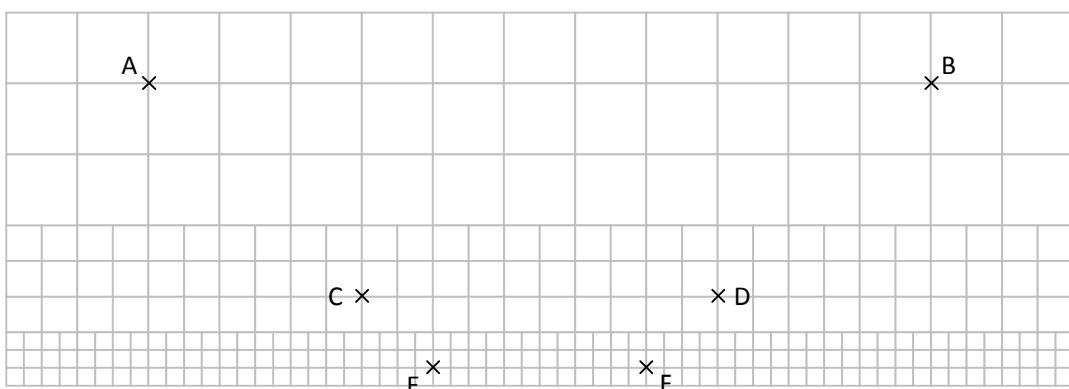
...A to B

...C to D

...E to F

...A to E

...B to F



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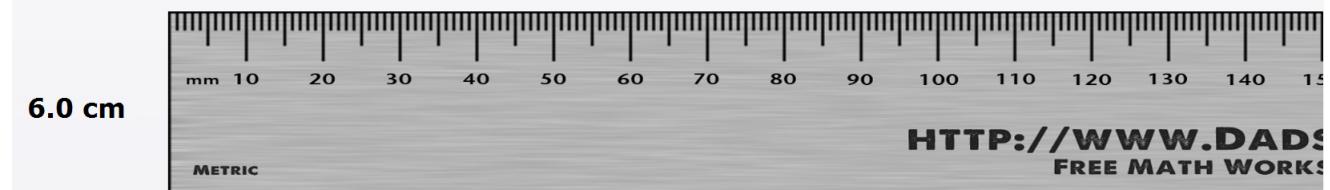
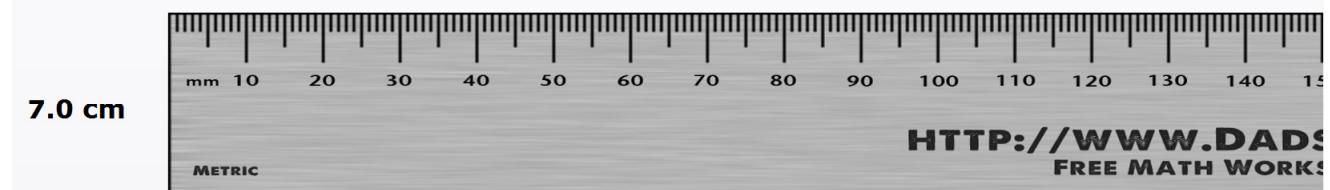
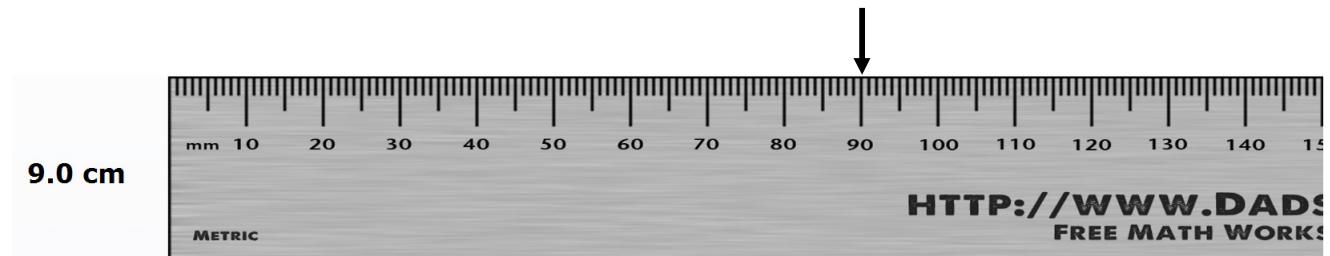
Maths Year 7, Spring 1

Drawing lines in whole cm

Ruler.3/10

Marking

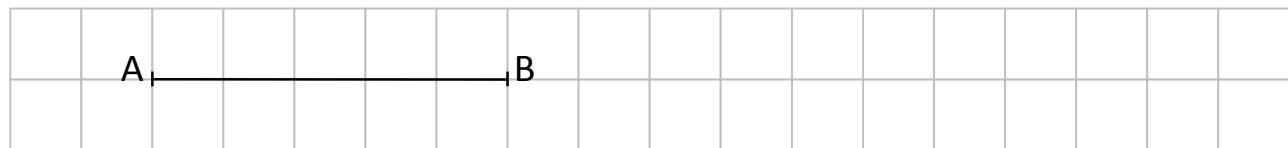
Mark an arrow on to represent each measurement. The first is done for you.



Credit: <http://www.dadsworksheets.com>

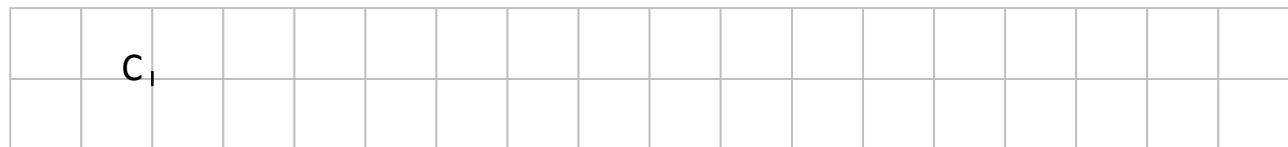
Draw your own

Here is a centimetre grid. There is a 5cm line from A to B. This line is called AB.



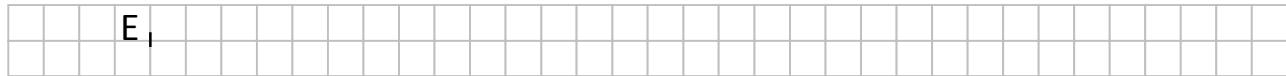
Line AB is 50mm.

NEATLY draw a horizontal 7cm line from C. Label the other end D.



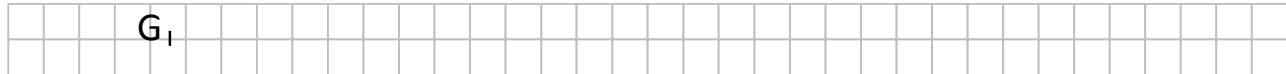
How long is the line CD in millimetres? 

NEATLY draw a horizontal 9cm line from E. Label the other end F.



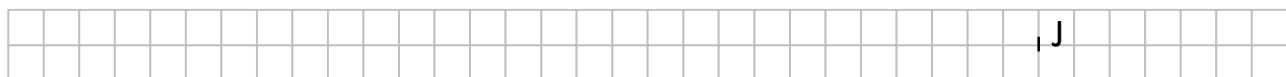
How long is the line EF in millimetres? 

NEATLY draw a horizontal 8cm line from G. Label the other end H.



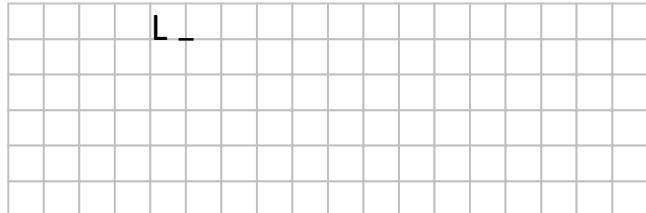
How long is the line GH in millimetres? 

NEATLY draw a horizontal 9cm line from J. Label the other end K.



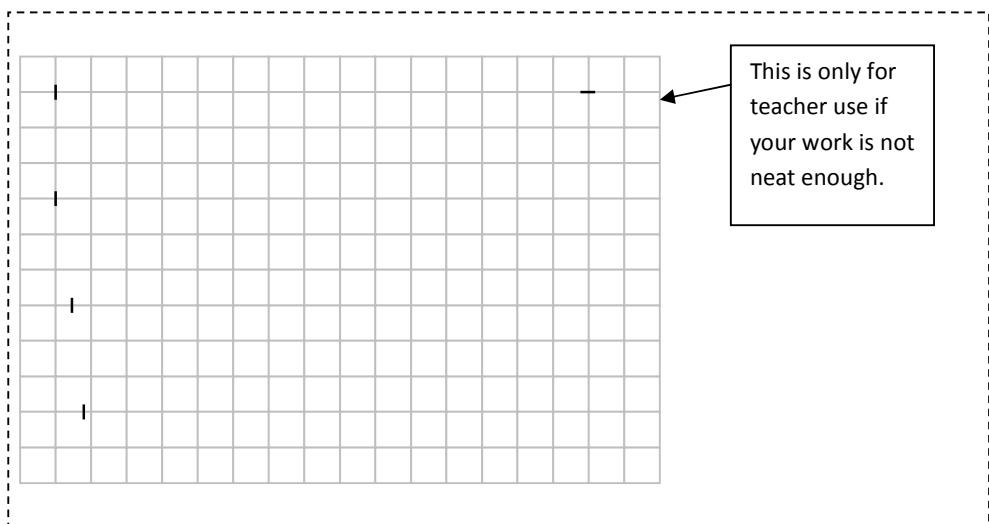
How long is the line JK in millimetres? 

NEATLY draw a vertical 2cm line from L. Label the other end M.



How long is the line LM in millimetres? 

You're done! Ask for your work to be validated.



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Maths Year 7, Spring 1

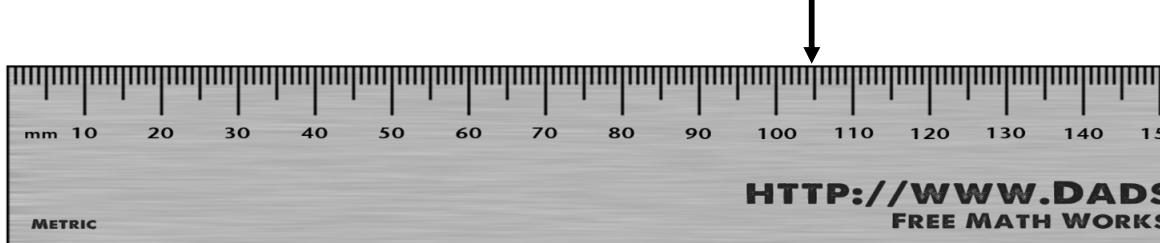
Drawing lines in mm

Ruler.4/10

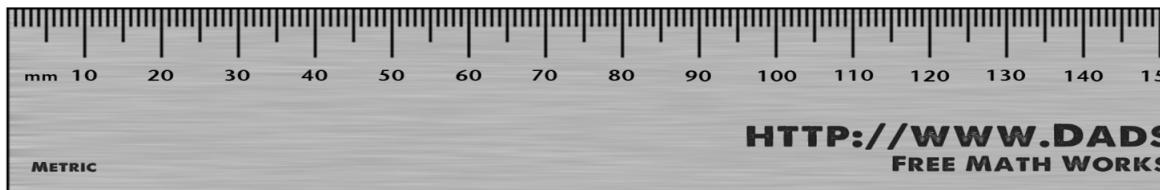
Marking

Mark an arrow on to represent each measurement. The first is done for you.

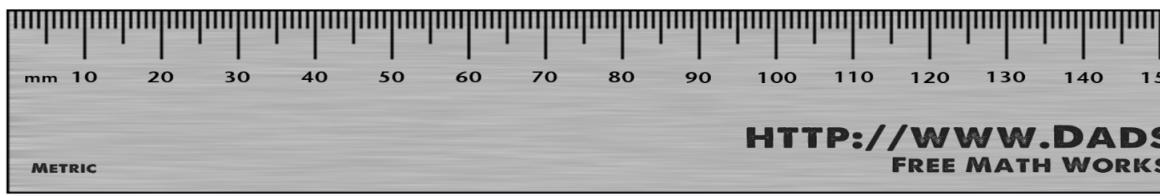
105mm



64mm



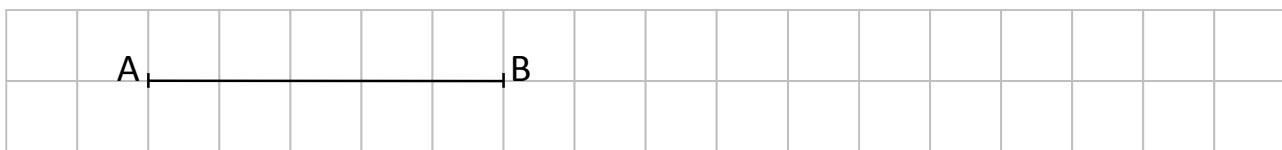
7mm



Credit: <http://www.dadsworksheets.com>

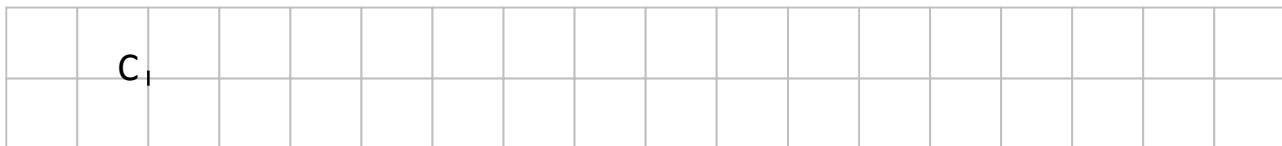
Draw your own

Here is a centimetre grid. There is a 50cm line from A to B. This line is called AB.



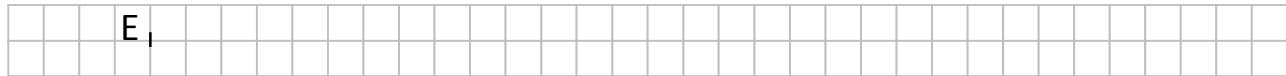
Line AB is 5cm.

NEATLY draw a horizontal 90mm line from C. Label the other end D.



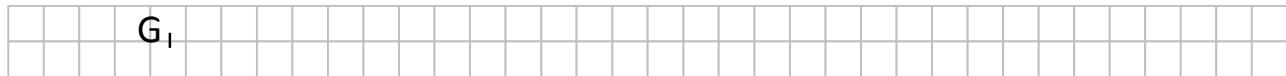
How long is the line CD in centimetres? 

NEATLY draw a horizontal 140mm line from E. Label the other end F.



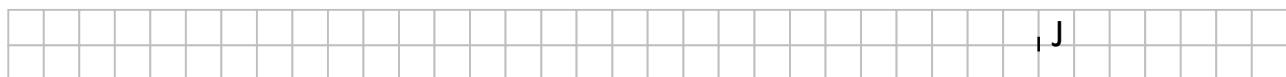
How long is the line EF in centimetres? 

NEATLY draw a horizontal 95mm line from G. Label the other end H.



How long is the line GH in centimetres? 

NEATLY draw a horizontal 52mm line from J. Label the other end K.



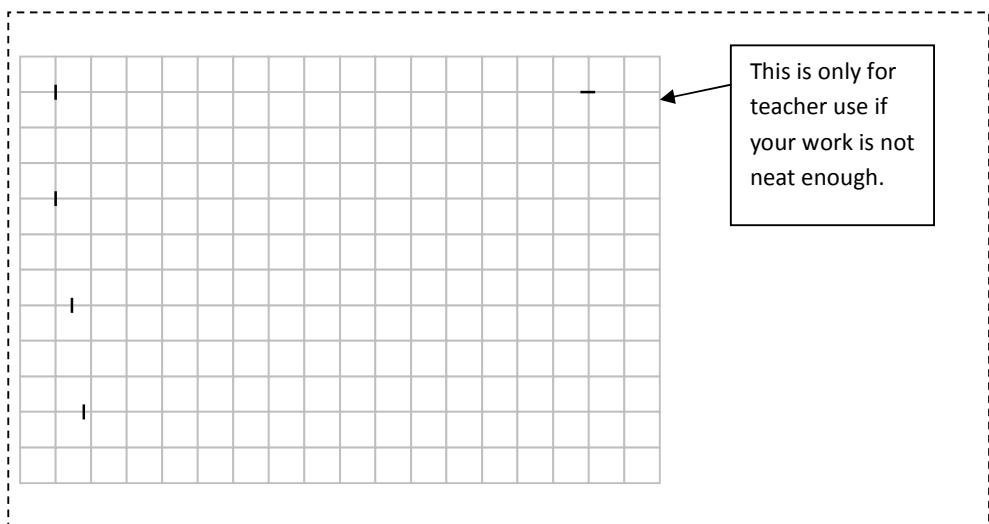
How long is the line JK in centimetres? 

NEATLY draw a vertical 25mm line from L. Label the other end M.



How long is the line LM in centimetres? 

You're done! Ask for your work to be validated.



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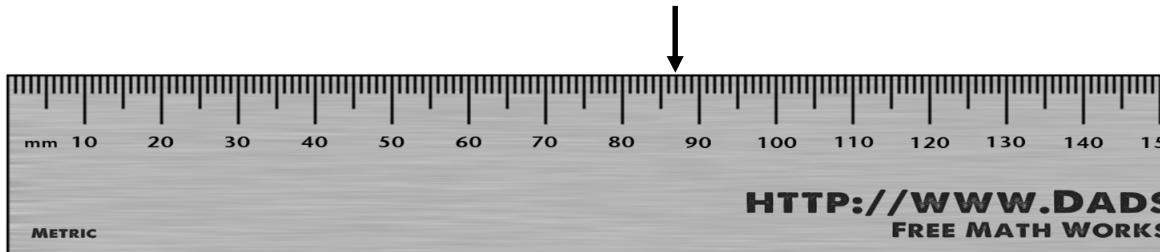
Drawing lines in cm and mm

Ruler.5/10

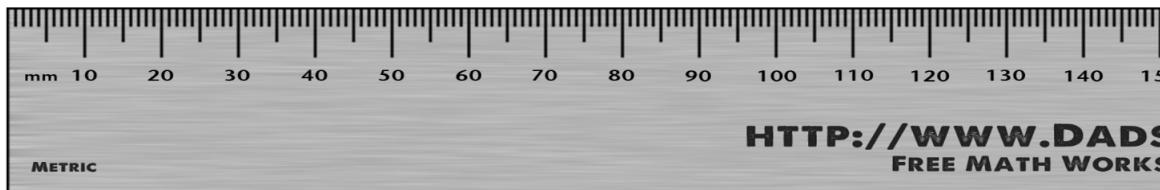
Marking

Mark an arrow on to represent each measurement. The first is done for you.

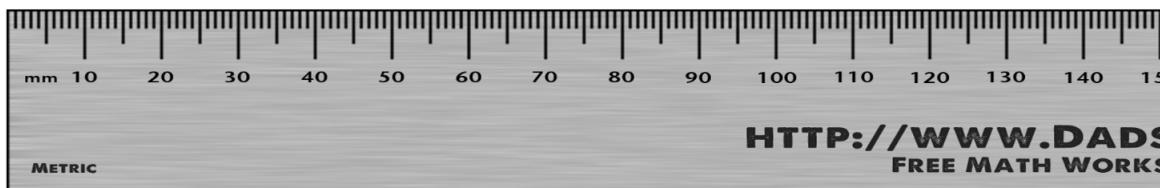
8.7cm



14.2cm



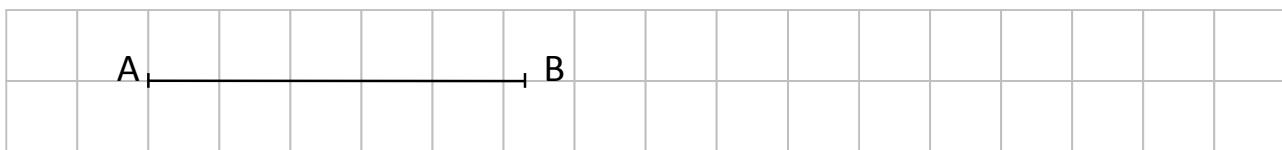
0.9cm



Credit: <http://www.dadsworksheets.com>

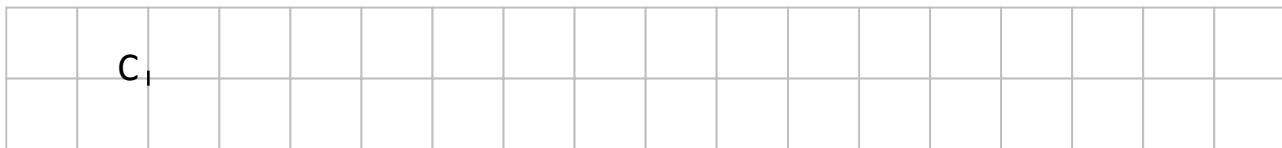
Draw your own

Here is a centimetre grid. There is a 5.3cm line from A to B. This line is called AB.



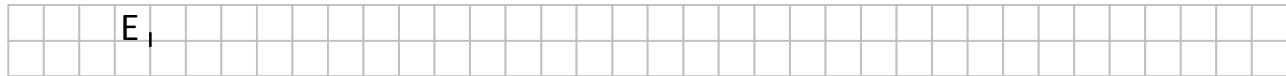
Line AB is 53mm.

NEATLY draw a horizontal 3.8cm line from C. Label the other end D.



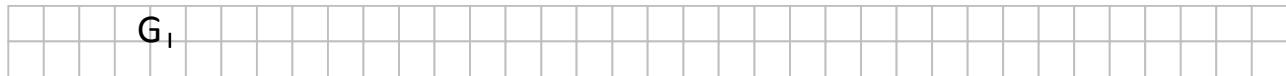
How long is the line CD in millimetres? 

NEATLY draw a horizontal 12.1cm line from E. Label the other end F.



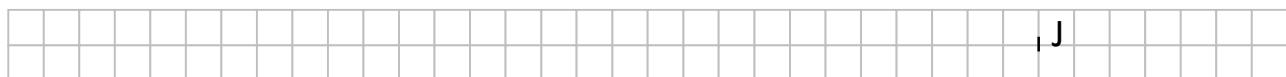
How long is the line EF in millimetres? 

NEATLY draw a horizontal 6.9cm line from G. Label the other end H.



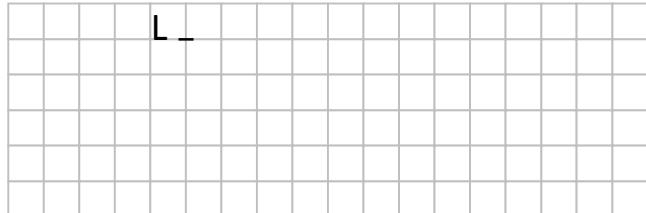
How long is the line GH in millimetres? 

NEATLY draw a horizontal 7.4cm line from J. Label the other end K.



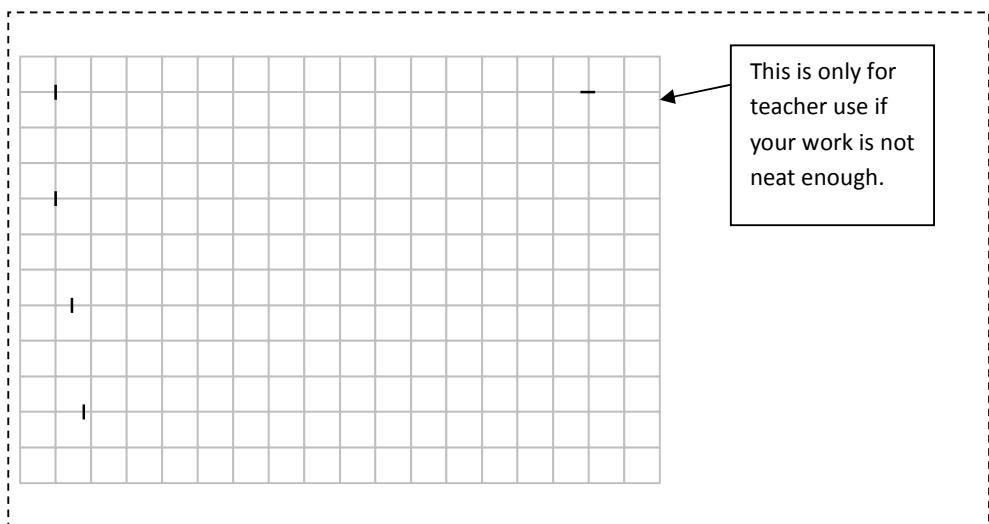
How long is the line JK in millimetres? 

NEATLY draw a vertical 0.6cm line from L. Label the other end M.



How long is the line LM in millimetres? 

You're done! Ask for your work to be validated.



Name: _____

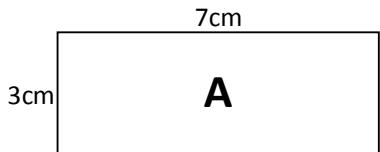
Date: _____

Maths Year 7, Spring 1

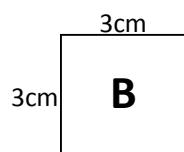
Drawing squares and rectangles Ruler.6/10

Centimetres

Shape A is a rectangle measuring 3cm by 7cm.

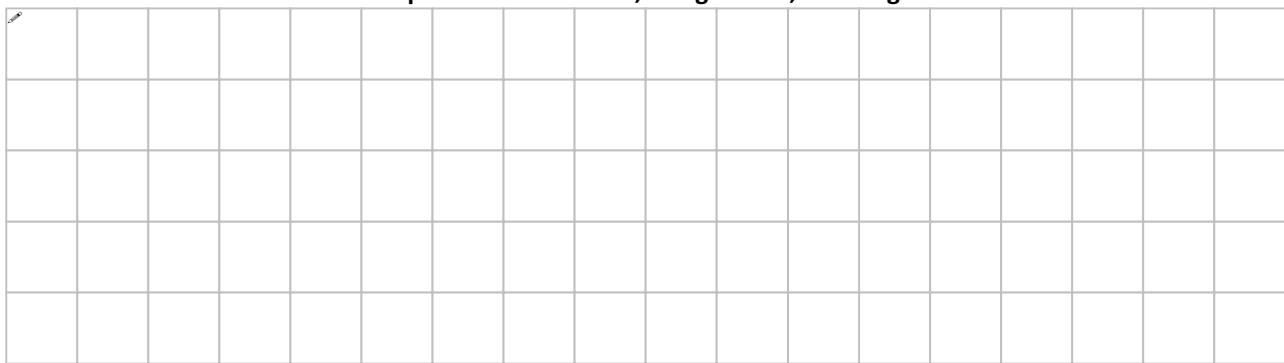


Shape B is a square measuring 3cm on each side.



The shapes have NOT been drawn to scale.

NEATLY and ACCURATELY draw shapes A and B to scale, using a ruler, on this grid.



What is the AREA of shape A?

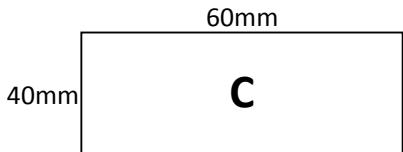
What is the AREA of shape B?

What is the PERIMETER of shape A?

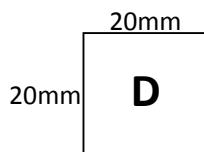
What is the PERIMETER of shape B?

Millimetres

Shape C is a rectangle measuring 25mm by 60mm.

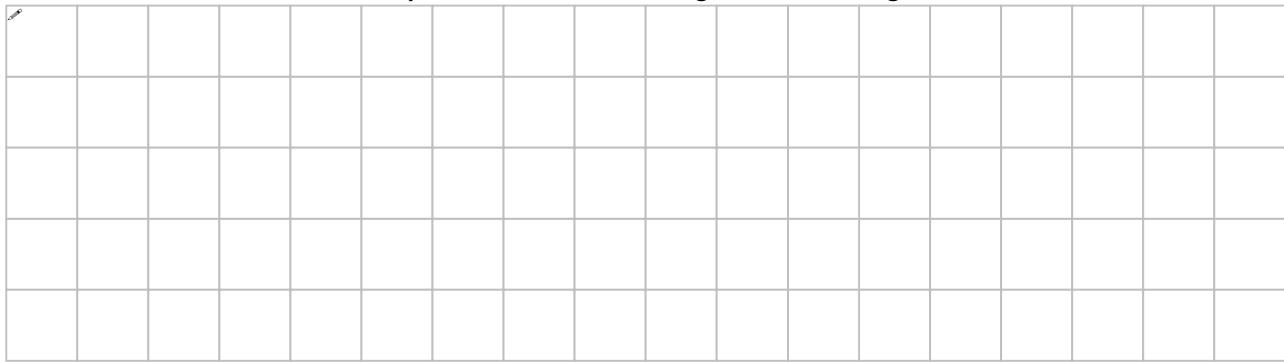


Shape D is a square measuring 35mm on each side.



The shapes have NOT been drawn to scale.

NEATLY and ACCURATELY draw shapes C and D to scale, using a ruler, on this grid.



What is the AREA of shape C?

What is the AREA of shape D?

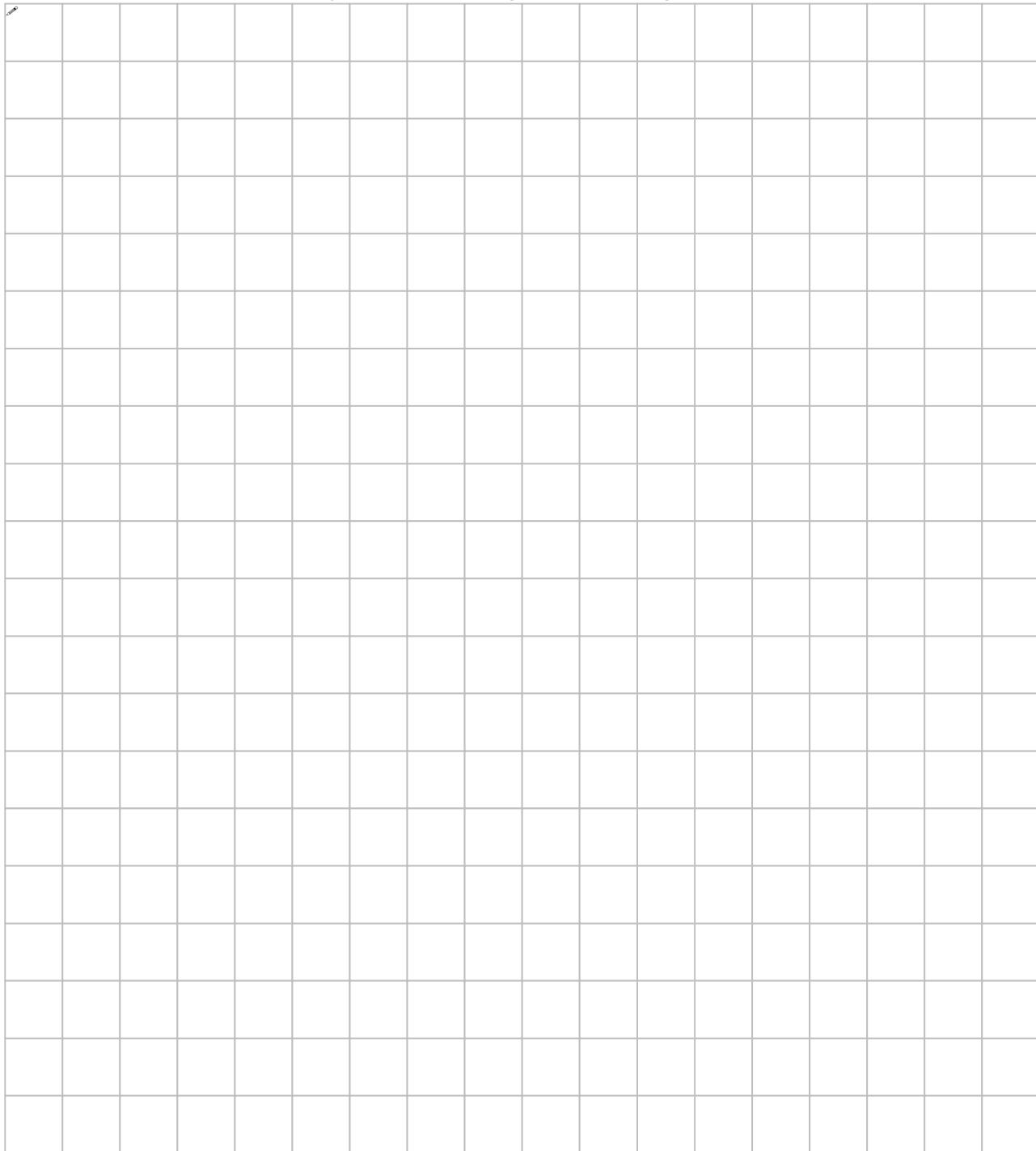
What is the PERIMETER of shape C? 

What is the PERIMETER of shape D? 

Your Own

1. Draw a rectangle where the length is DOUBLE the width, e.g. the length could be 5cm and the width could be 2.5cm.
Label this shape E.
2. Draw a rectangle with an area of 18cm^2 .
Label this shape F.
3. Draw a square with a perimeter of 20cm.
Label this shape G.

NEATLY and ACCURATELY draw shapes E, F and G, using a ruler, on this grid.



You're done!

Ask for your work to be validated.

Name: _____

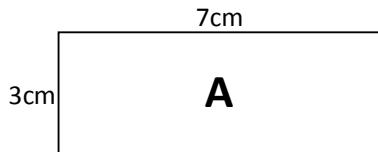
Date: _____

Maths Year 7, Spring 1

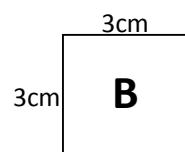
Drawing squares and rectangles* Ruler.6/10

Centimetres

Shape A is a rectangle measuring 3cm by 7cm.



Shape B is a square measuring 3cm on each side.



The shapes have NOT been drawn to scale.

NEATLY and ACCURATELY draw shapes A and B to scale, using a ruler, on this grid.



What is the AREA of shape A?

What is the AREA of shape B?

What is the PERIMETER of shape A?

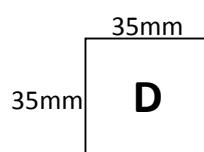
What is the PERIMETER of shape B?

Millimetres

Shape C is a rectangle measuring 25mm by 60mm.



Shape D is a square measuring 35mm on each side.



The shapes have NOT been drawn to scale.

NEATLY and ACCURATELY draw shapes C and D to scale, using a ruler, on this grid.



What is the AREA of shape C?

What is the AREA of shape D?

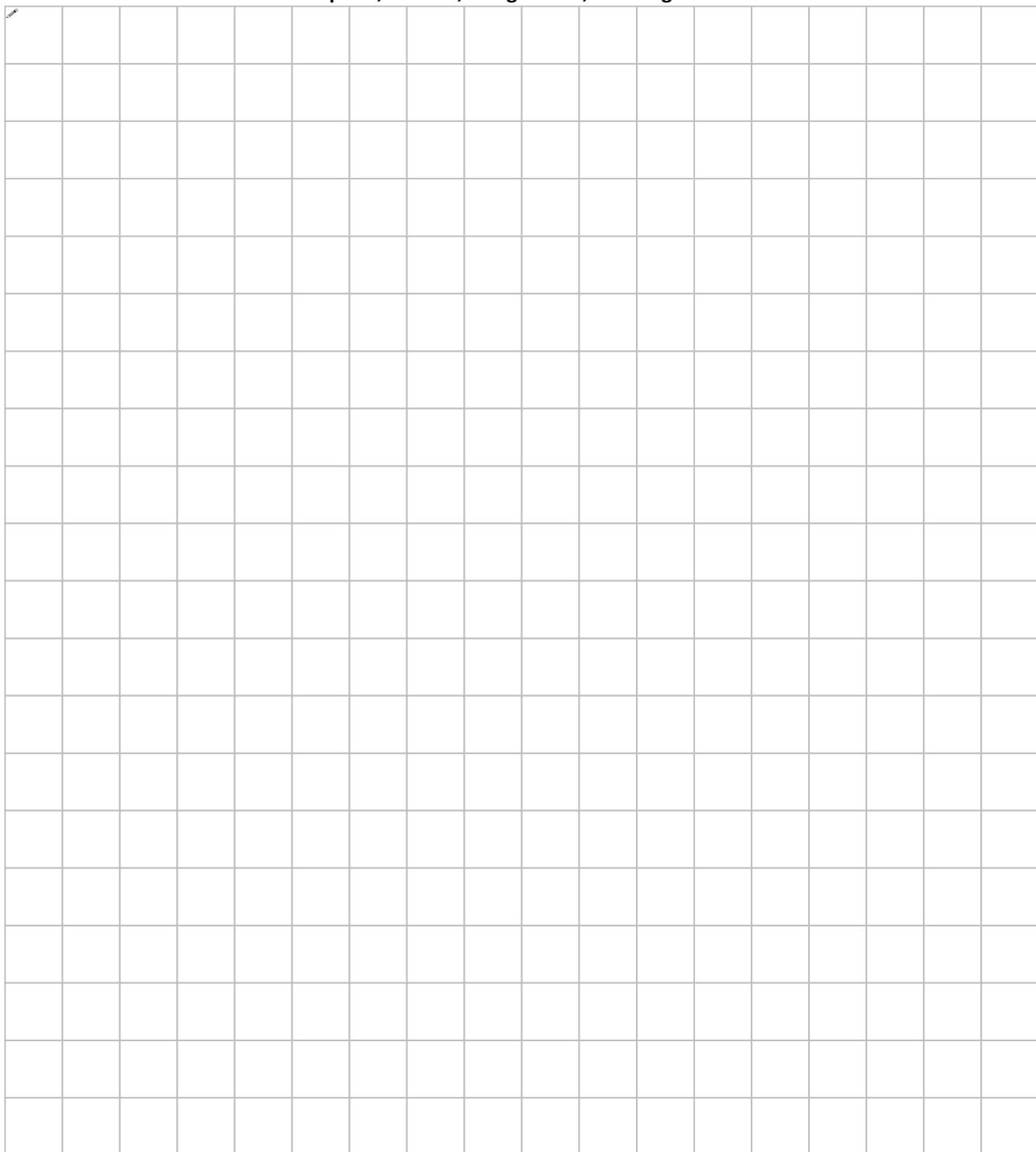
What is the PERIMETER of shape C?

What is the PERIMETER of shape D?

Your Own

1. Draw a rectangle where the length is DOUBLE the width, e.g. the length could be 5cm and the width could be 2.5cm.
Label this shape E.
2. Draw a rectangle with an area of 17cm^2 .
Label this shape F.
3. Draw a square with a perimeter of 18cm.
Label this shape G.

NEATLY and ACCURATELY draw shapes E, F and G, using a ruler, on this grid.



You're done!

Ask for your work to be validated.

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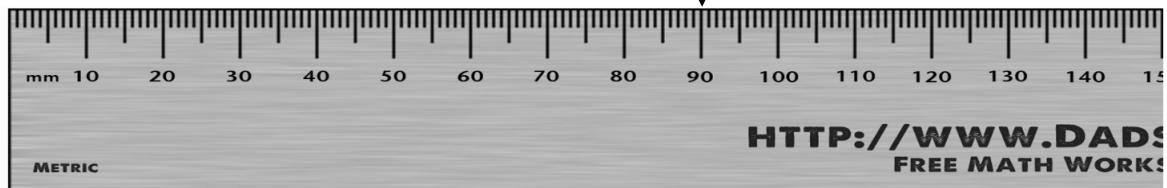
Drawing lines in whole cm

Ruler.3/10

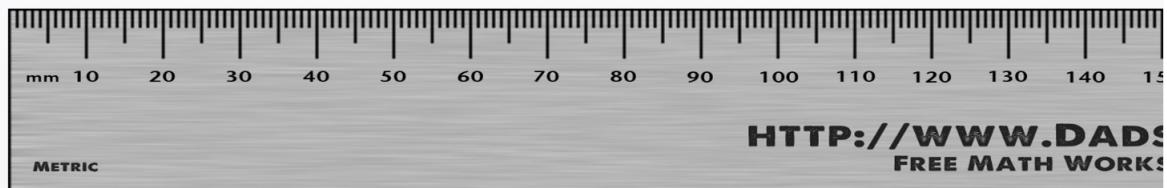
Marking

Mark an arrow on to represent each measurement. The first is done for you.

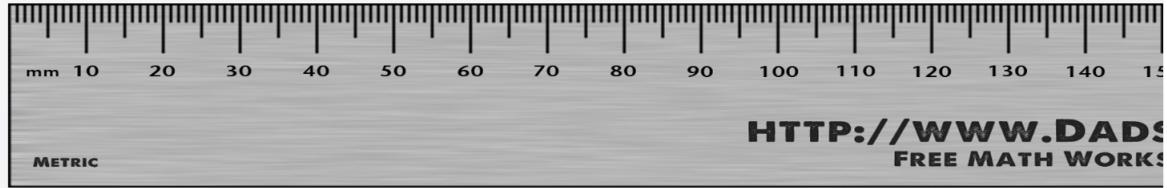
9.0 cm



7.0 cm



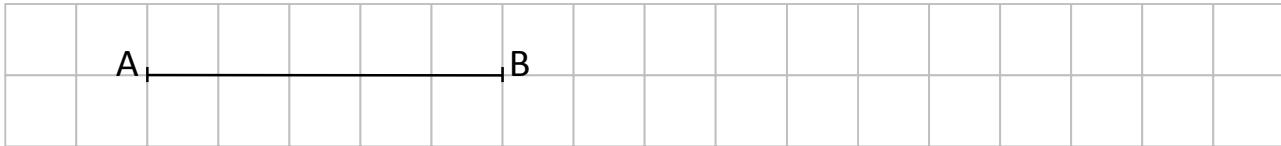
6.0 cm



Credit: <http://www.dadsworksheets.com>

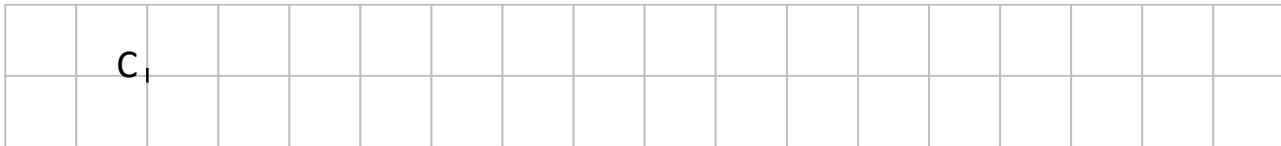
Draw your own

Here is a centimetre grid. There is a 5cm line from A to B. This line is called AB.



Line AB is 50mm.

NEATLY draw a horizontal 7cm line from C. Label the other end D. How long is the line CD?

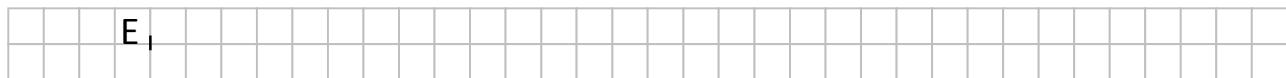


How long is the line CD in millimetres?

NEATLY draw a horizontal 9cm line from E.

Label the other end F.

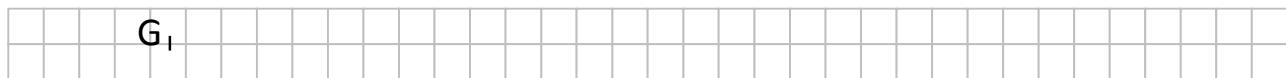
How long is the line EF? 



How long is the line EF in millimetres? 

NEATLY draw a horizontal 8cm line from G.

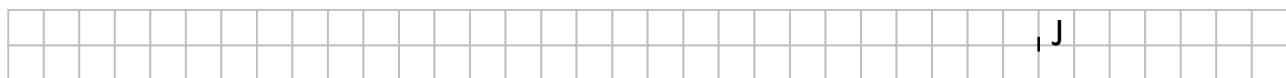
Label the other end H.



How long is the line GH in millimetres? 

NEATLY draw a horizontal 9cm line from J.

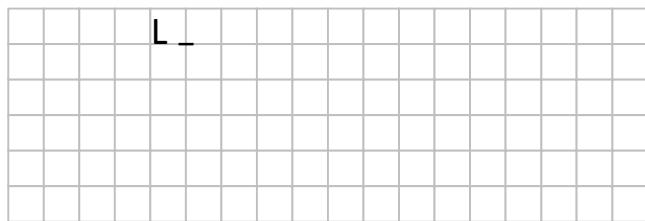
Label the other end K.



How long is the line JK in millimetres? 

NEATLY draw a vertical 2cm line from L.

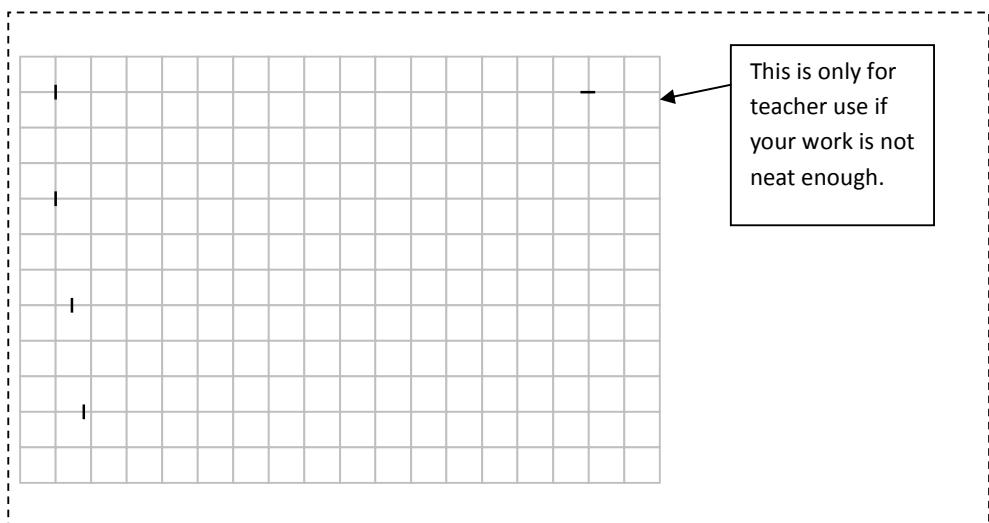
Label the other end M.



How long is the line LM in millimetres? 

You're done!

Ask for your work to be validated.



Name: _____

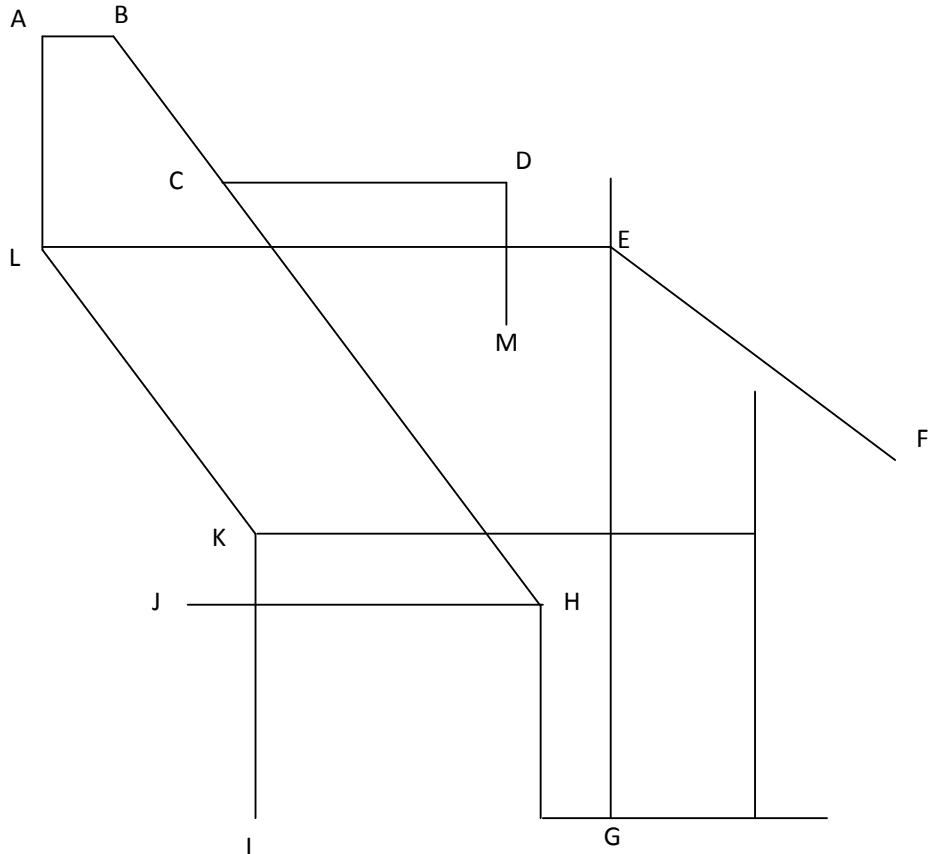
Date: _____

Maths Year 7, Spring 1

Measuring lines in whole cm

Ruler.7/10

Measure the length of these lines in cm and mm. The first is done for you.



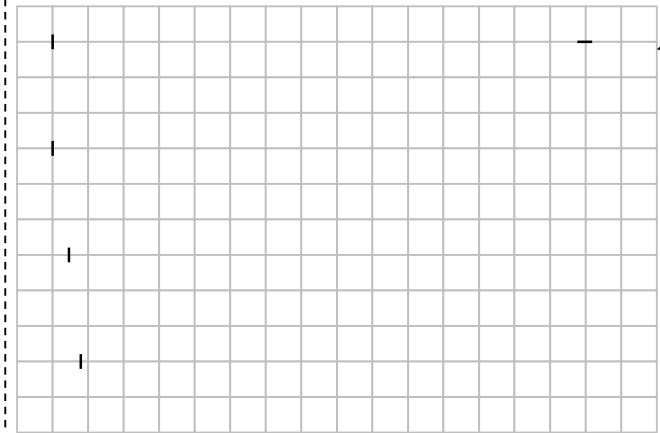
Line	cm	mm
AB	1cm	10mm
BH		
EF		
CD		
JH		

Line	cm	mm
EG
EL
IK
LK
DM

For bonus marks, add the symbols for parallel lines and right angles.

You're done!

Ask for your work to be validated.



This is only for
teacher use if
your work is not
neat enough.

Name: _____

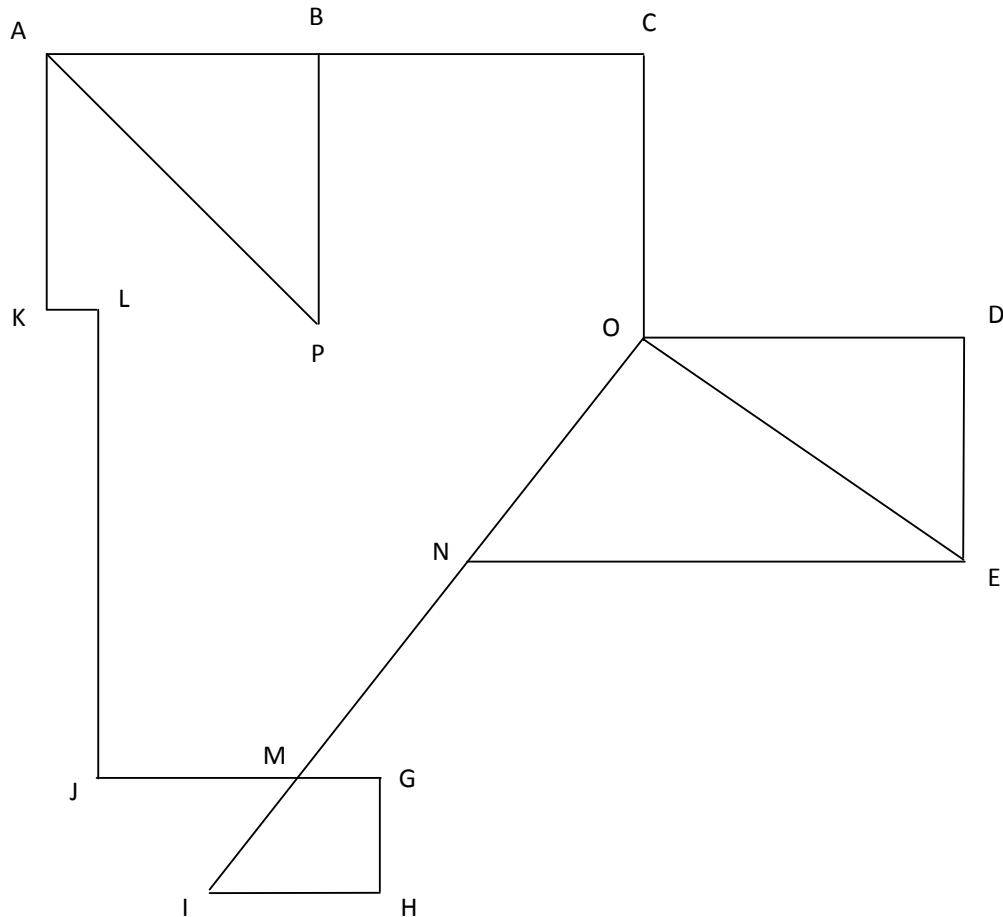
Date: _____

Maths Year 7, Spring 1

Measuring lines in mm

Ruler.8/10

Measure the length of these lines in mm and cm. The first is done for you.



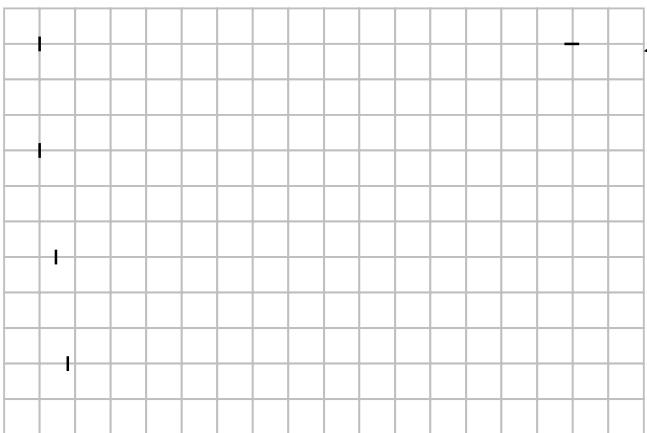
Line	mm	cm
AC	84mm	8.4cm
CO
OD
DE
EN

Line	mm	cm
ON
GH
MI
KL
BP

For bonus marks, add the symbols for parallel lines and right angles.

You're done!

Ask for your work to be validated.



This is only for
teacher use if
your work is not
neat enough.

Name: _____

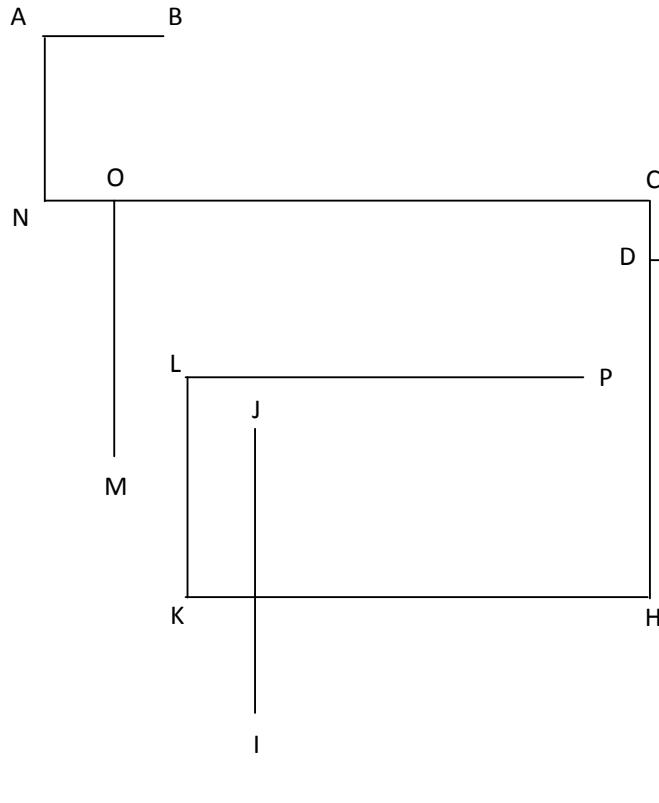
Date: _____

Maths Year 7, Spring 1

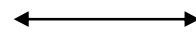
Measuring lines in cm and mm

Ruler.9/10

Measure the length of these lines in cm and mm. The first is done for you.



Horizontal



Find three horizontal lines in the diagram.

e.g. AB is horizontal

..... is horizontal

..... is horizontal

..... is horizontal

Vertical



Find three vertical lines in the diagram.

e.g. AN is vertical

Line	cm	mm
AB	<input type="text"/> 1.7cm	<input type="text"/> 17mm
AN	<input type="text"/>	<input type="text"/>
OM	<input type="text"/>	<input type="text"/>
DF	<input type="text"/>	<input type="text"/>

Line	cm	mm
EG	<input type="text"/>	<input type="text"/>
HK	<input type="text"/>	<input type="text"/>
CD	<input type="text"/>	<input type="text"/>
LK	<input type="text"/>	<input type="text"/>

You're done!

Ask for your work to be validated.

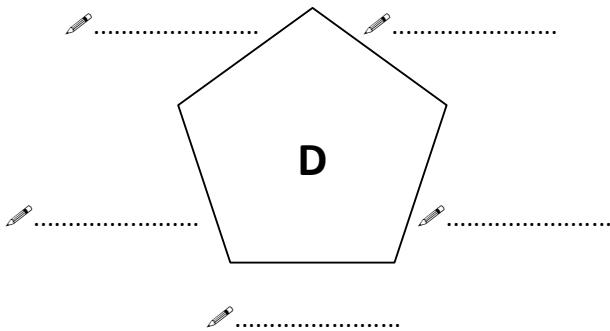
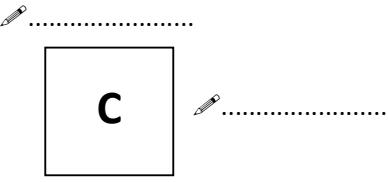
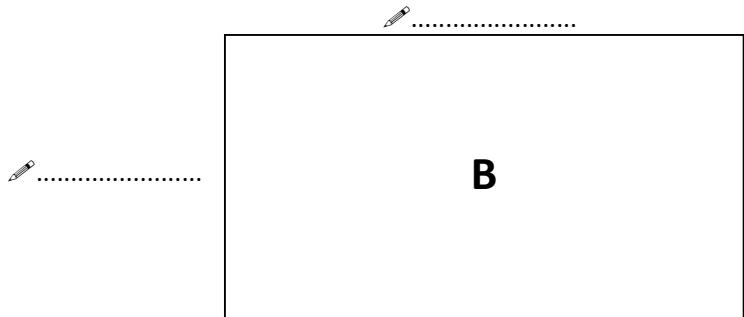
Name: _____

Date: _____

Maths Year 7, Spring 1

Measuring lines in polygons Ruler.10/10

CAREFULLY measure the lengths of each side of these shapes. Remember the units. The first is done for you.



Bonus questions

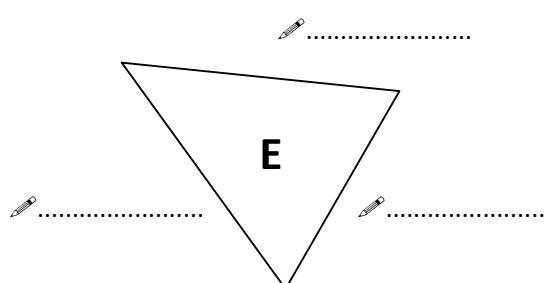
1. Mark little dashes on the sides that are equal.
2. What is the full name of this shape?

..... (2)

Bonus questions

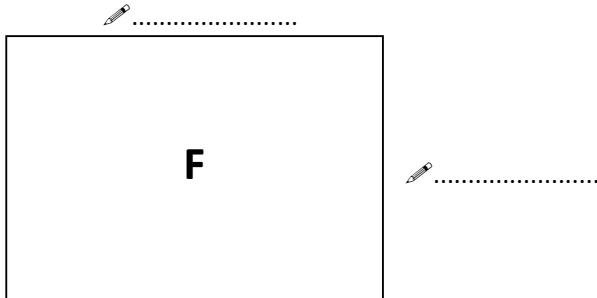
1. Mark little dashes on the sides that are equal.
2. What is the full name of this shape?

..... (2)



Perimeter

Measure the sides of this rectangle and then calculate the perimeter. Remember the units.



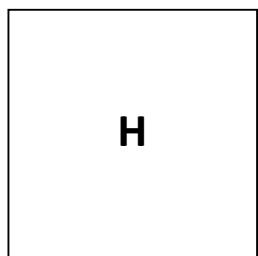
Perimeter = cm

Measure all the lengths of each shape. Then calculate the perimeter.

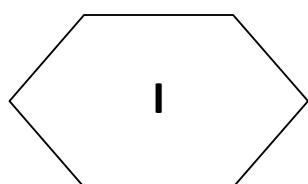
Match the shape on the left to the correct perimeter on the right.



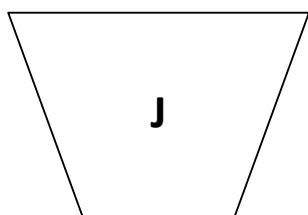
Perimeter = 12.6cm



Perimeter = 14.0cm



Perimeter = 14.2cm



Perimeter = 10.6cm

Name: _____

Date: _____

Maths Year 7, Spring 1

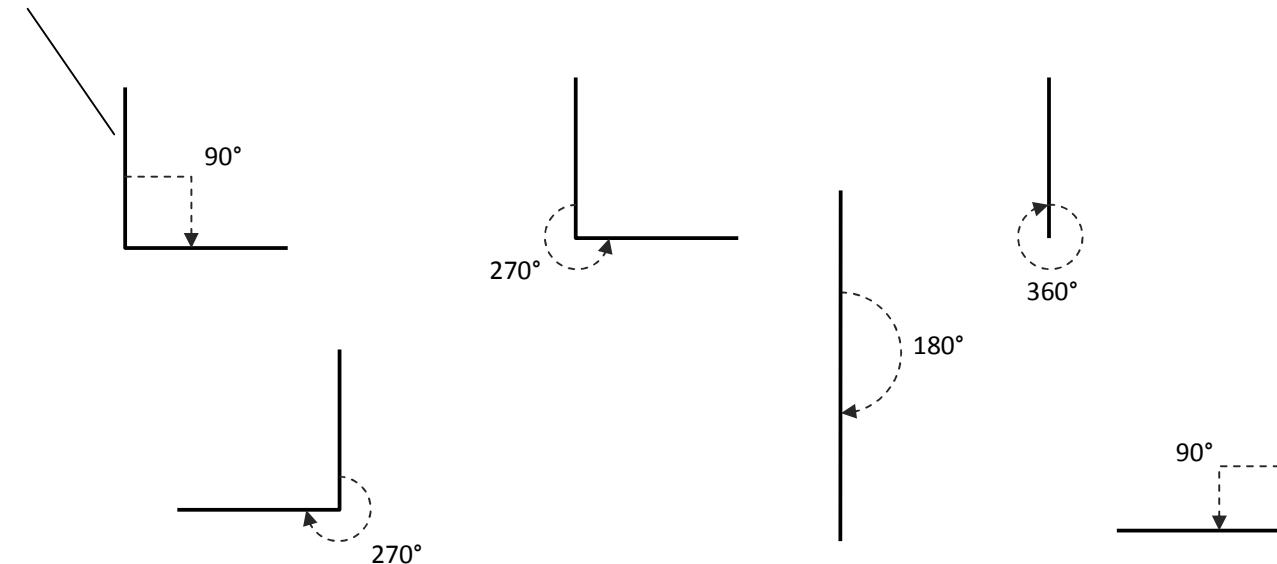
Introducing Angles

Protractor 1/16

Types of Turn

Match each turn to the correct description. The first one has been done for you.

$\frac{1}{4}$ turn clockwise $\frac{1}{4}$ turn anti-clockwise $\frac{1}{2}$ turn $\frac{1}{4}$ turn clockwise $\frac{3}{4}$ turn clockwise full turn



Try this: <http://uk.ixl.com/math/level-e/angles-of-90-180-270-and-360-degrees>

Done?

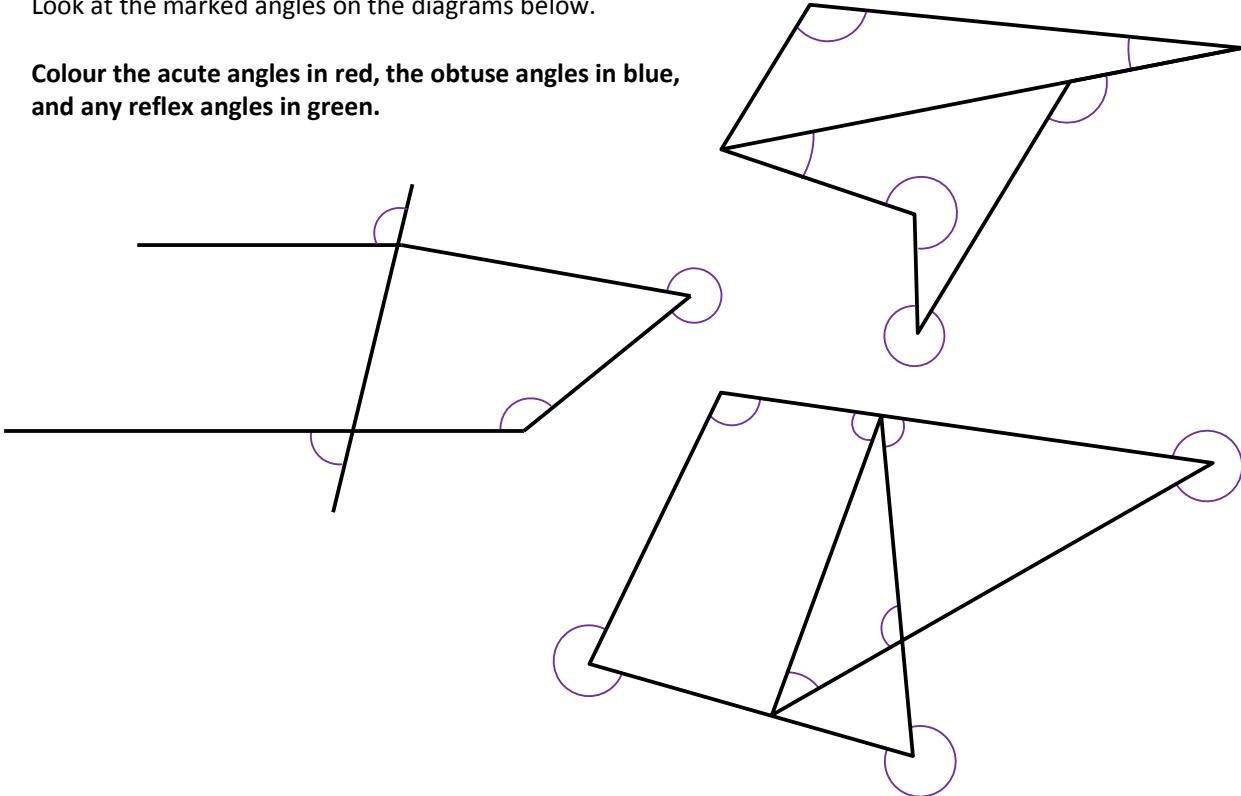
Types of angle

Try this: <http://uk.ixl.com/math/level-f/acute-right-obtuse-and-straight-angles>

Done?

Look at the marked angles on the diagrams below.

Colour the acute angles in red, the obtuse angles in blue, and any reflex angles in green.



Spelling

What is the difference between an angel and an angle?

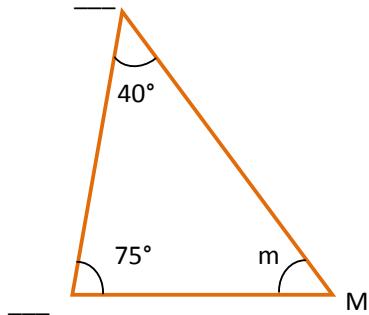
An angle is

An angel is

Naming and Labelling Angles

Angle LNM = 75° Angle MLN = 40°

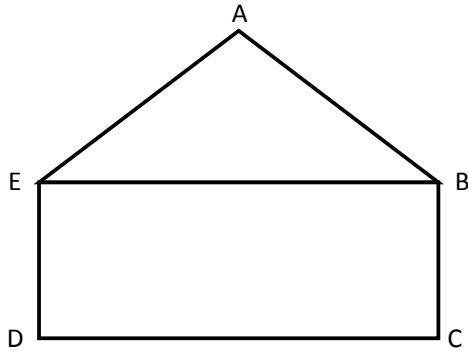
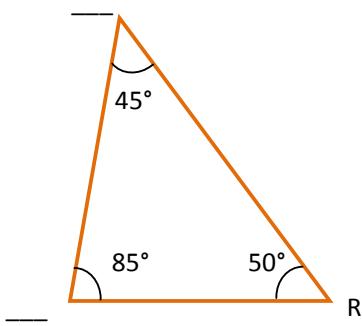
Label the vertices with the letters L or N.



Angle PQR = 45° Angle QPR = 85°

- i) Label the vertices with the letters P or Q.
- ii) Name the angle that measures 50°

Angle = 50°



Name 3 right angles (one is done for you).

Angle EBC

Name 1 acute angle.

Name 1 obtuse angle.

Angle Facts

True or false? Draw a circle around the correct answer.

- a) An obtuse angle measures less than 90° and more than 180° True or False
- b) A reflex angle is bigger than an acute angle True or False
- c) A left angle is the same as a right angle True or False

Name: _____

Date: _____

Maths Year 7, Spring 1

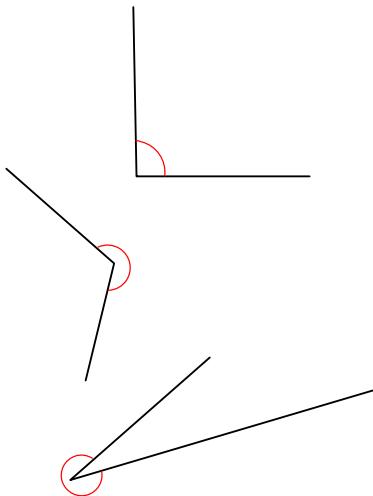
Estimating Angles

Protractor.2/16

Matching

Look at the angles below. They are NOT drawn accurately.

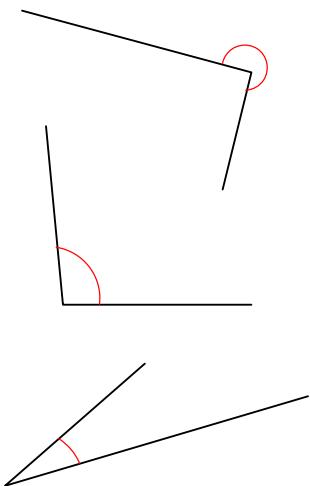
Estimate the size of each angle and draw a line to the best match on the right.



- 92°
- 320°
- 290°
- 87°
- 270°
- 235°

Look at the angles below. They are NOT drawn accurately.

Estimate the size of each angle and draw a line to the best match on the right.



- 28°
- 300°
- 45°
- 160°
- 265°
- 108°

Play these two games:

<http://nrich.maths.org/content/00/06/game1/StopClock.swf> (Requires a friend) Done?

<http://www.bbc.co.uk/ks2/Bitesize/flash/angles/angle.htm> Done?

Estimating

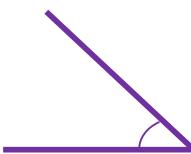
Estimate the size of these angles. Protractors not allowed.



.....

Explain

.....



.....

Explain

.....

Estimate the size of these angles. Protractors not allowed.



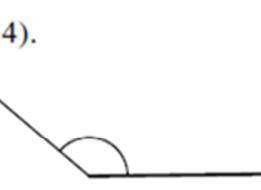
1).



2).



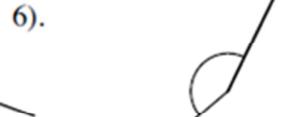
3).



4).



5).



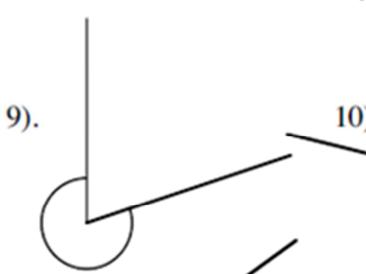
6).



7).



8).



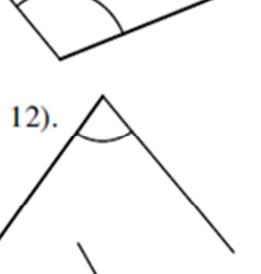
9).



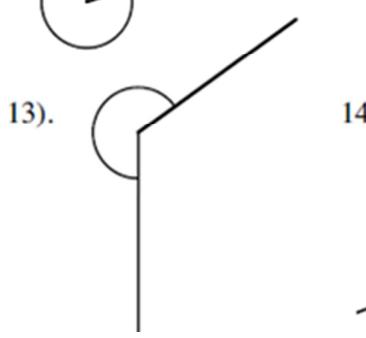
10).



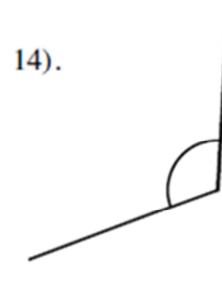
11).



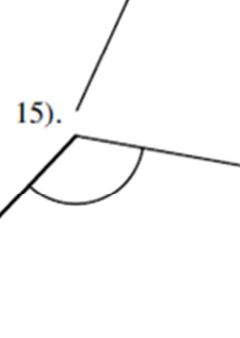
12).



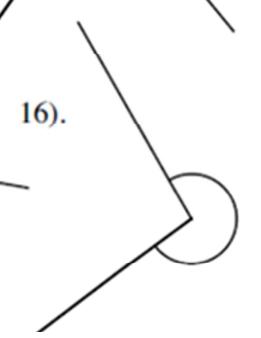
13).



14).



15).



16).

1.

5.

9.

13.

2.

6.

10.

14.

3.

7.

11.

15.

4.

8.

12.

16.

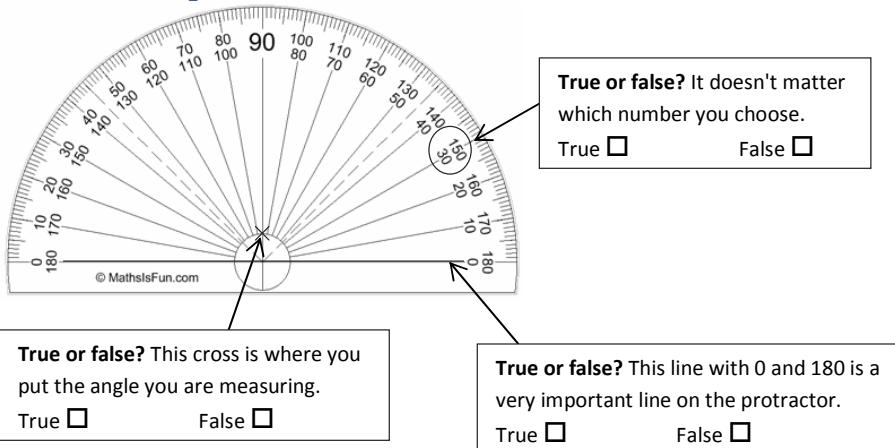
Name: _____

Date: _____

Maths Year 7, Spring 1

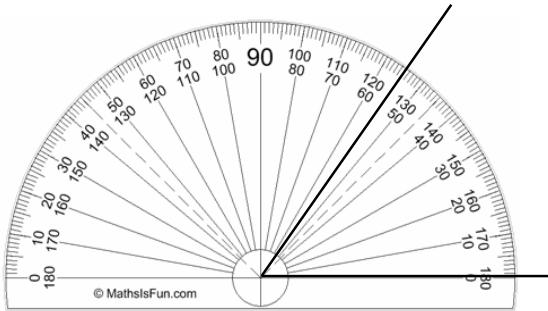
Getting to know your protractor Protractor.3/16

Parts of the protractor



Reading from the correct scale

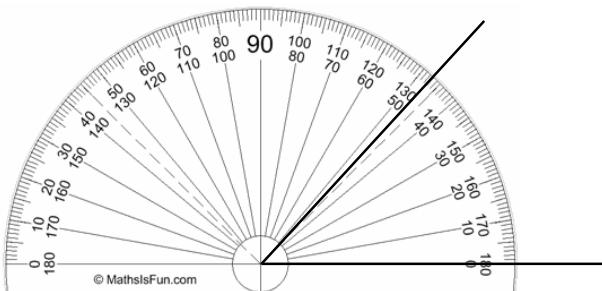
Is the angle 125° or 55° ?



Explain

.....
.....

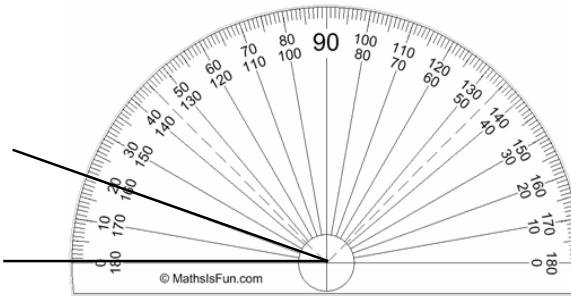
Is the angle 53° or 47° ?



Explain

.....
.....

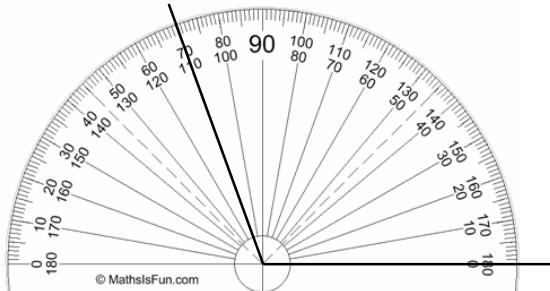
Is the angle 20° or 160° ?



Explain

.....
.....

Is the angle 70° or 110° ?



Explain

.....
.....

Name: _____

Date: _____

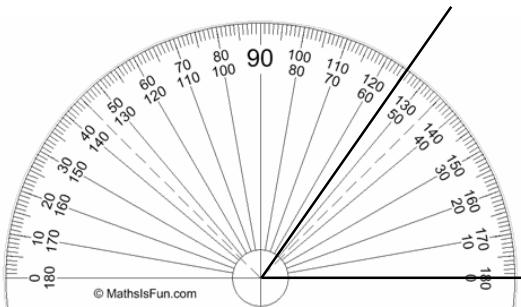
Maths Year 7, Spring 1

Positioning the protractor

Protractor 4/16

Does this look right to you?

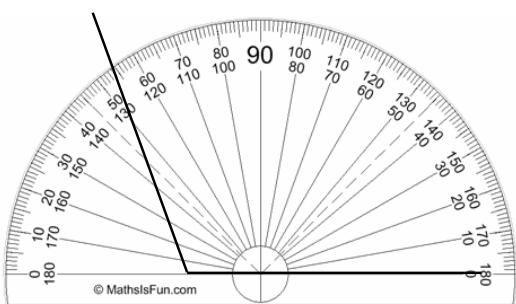
Is the protractor in the right place for measuring this angle? If it's not in the right place, what needs to be done to fix it?



Explain

.....
.....
.....
.....

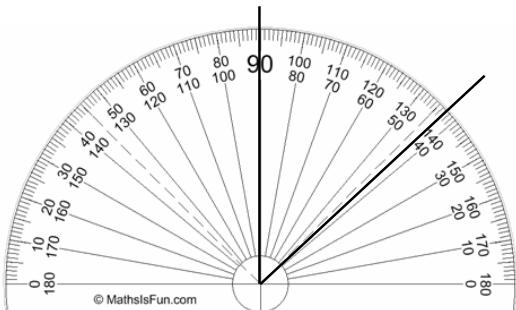
Is the protractor in the right place for measuring this angle? If it's not in the right place, what needs to be done to fix it?



Explain

.....
.....
.....
.....

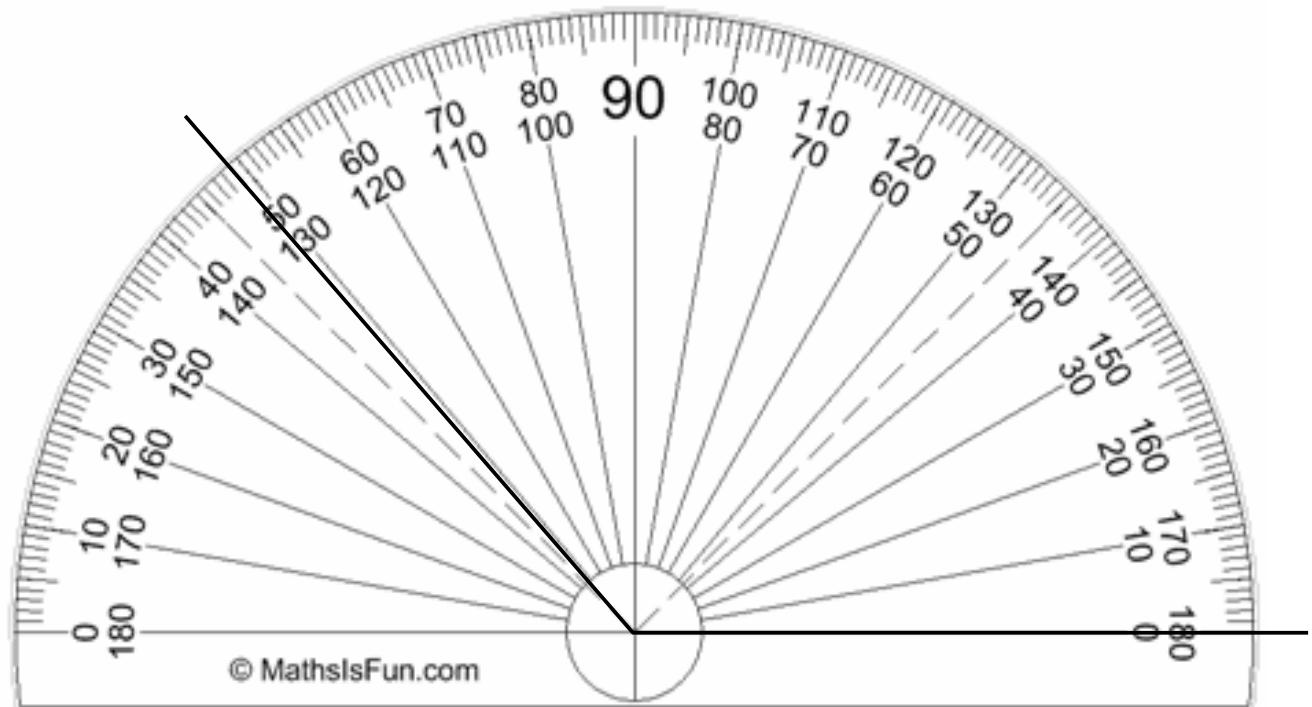
Is the protractor in the right place for measuring this angle? If it's not in the right place, what needs to be done to fix it?



Explain

.....
.....
.....
.....

Advice



Give 3 tips to someone who doesn't know how to put the protractor in the right place.

1.
2.
3.

Sketch

Use your angle estimating skills to complete these angles. (Don't use a protractor to draw the angles, just give it your best guess.)

60°



100°



Name: _____

Date: _____

Maths Year 7, Spring 1

Drawing acute angles in multiples of 10° Protractor.5/16

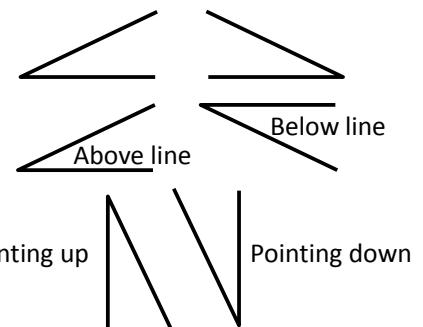
Instructions

Draw the following angles NEATLY and ACCURATELY on the grid below.

Try to do a mixture of angles pointing to the left and pointing to the right.

Try to get some above the line and some hanging below.

Try to get some angles pointing up and some pointing down.



.....

A large 10x10 grid of squares for drawing acute angles. The grid consists of 10 columns and 10 rows of small squares, providing a scale for drawing angles.

Name: _____

Date: _____

Maths Year 7, Spring 1

Drawing acute angles to nearest °

Protractor.6/16

Instructions – READ ME!

Draw the following angles NEATLY and ACCURATELY on the grid below.

Try to do a mixture of angles pointing to the left and pointing to the right.

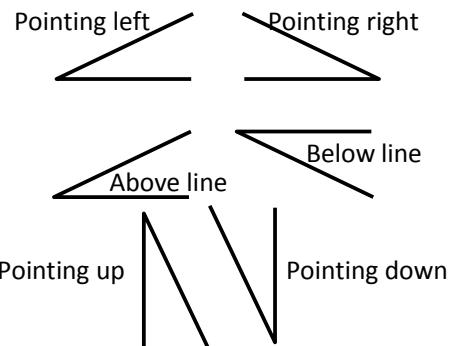
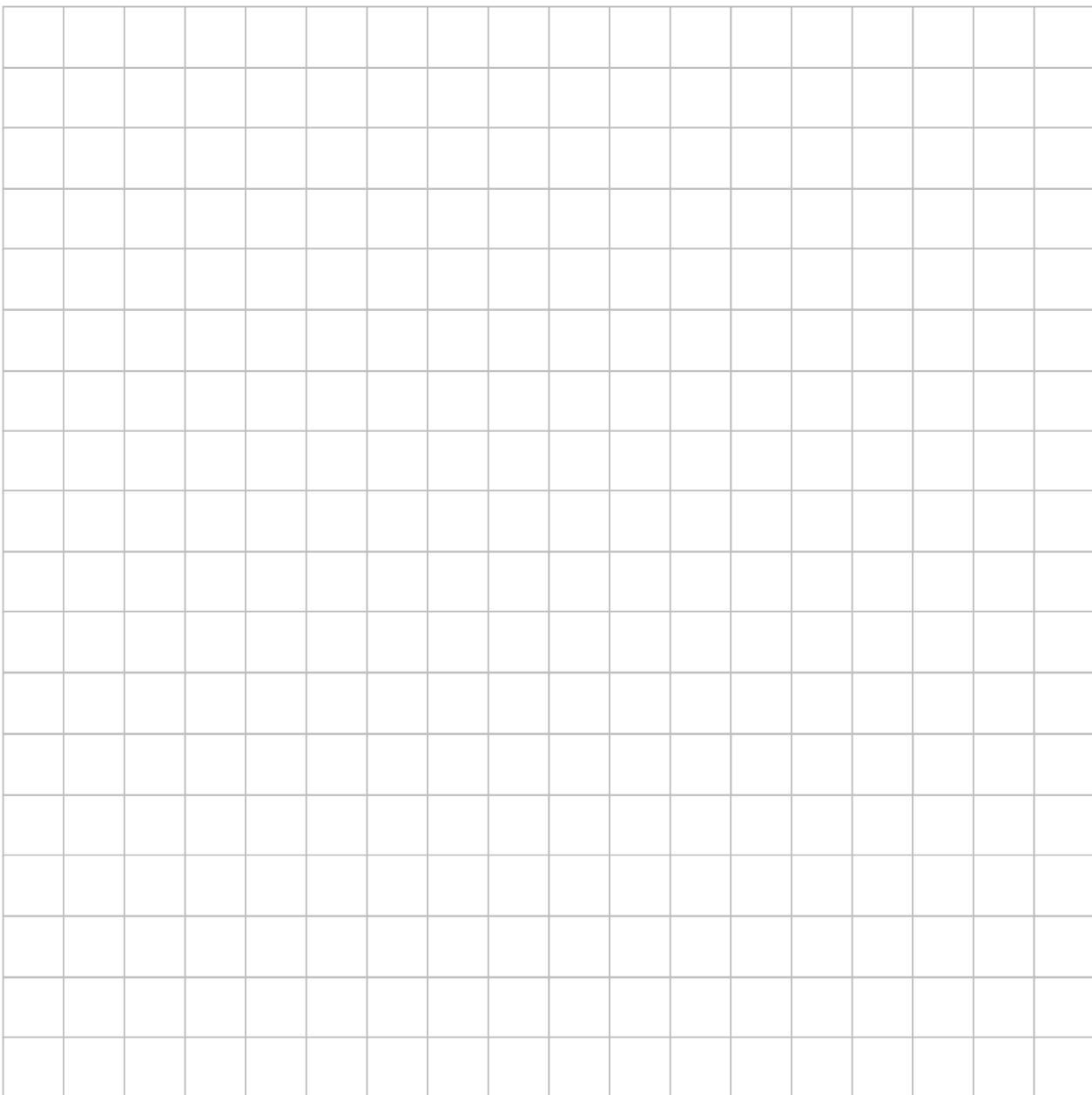
Try to get some above the line and some hanging below.

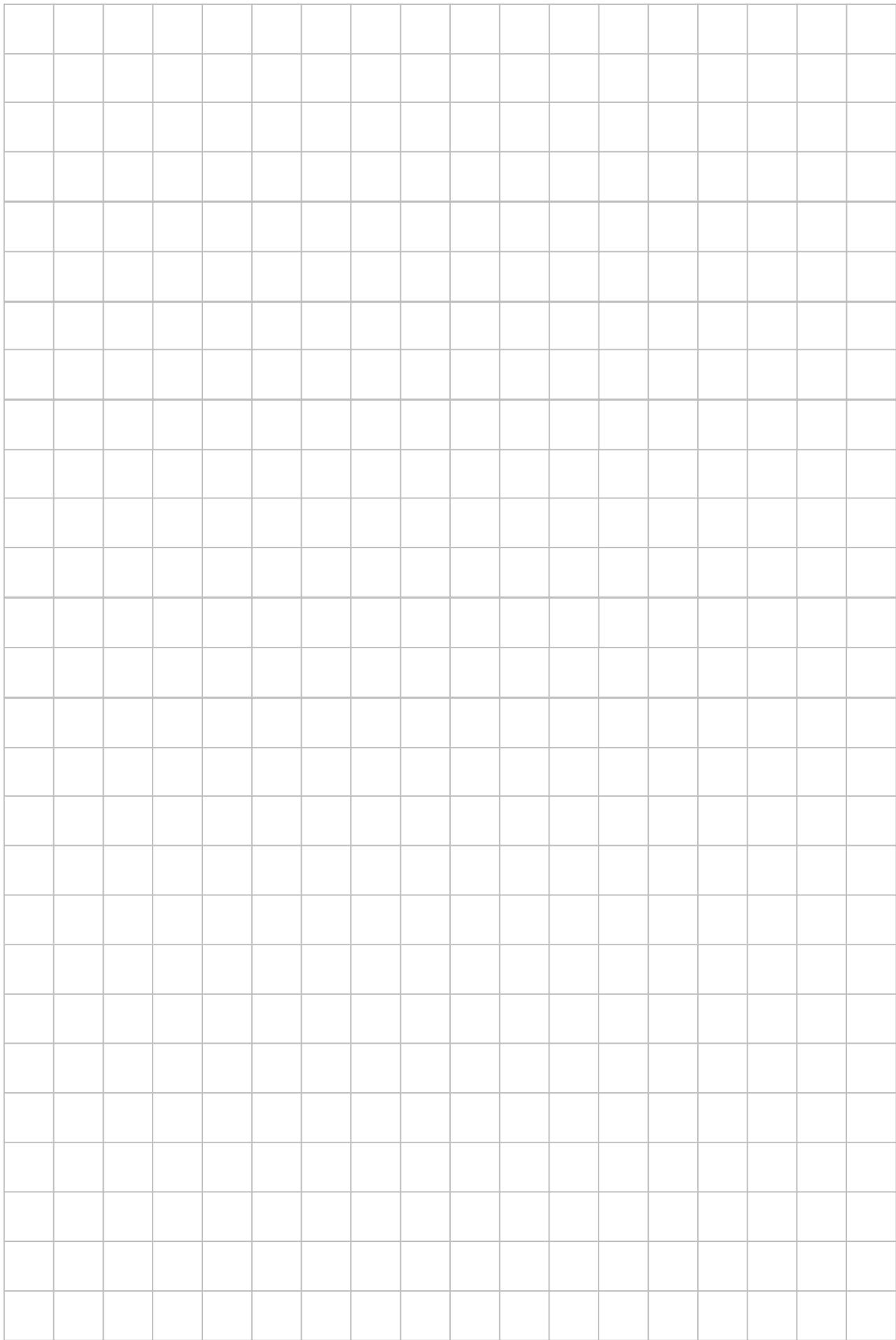
Try to get some angles pointing up and some pointing down.

If you cannot get a mixture, don't worry.

The important thing is that you draw the angles NEATLY and ACCURATELY.

15° 26° 31° 42° 58° 67° 79° 84°





Name: _____

Date: _____

Maths Year 7, Spring 1

Drawing obtuse angles in multiples of 10° Protractor.7/16

Instructions – READ ME!

Draw the following angles NEATLY and ACCURATELY on the grid below.

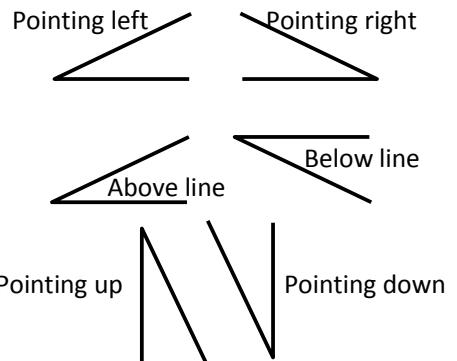
Try to do a mixture of angles pointing to the left and pointing to the right.

Try to get some above the line and some hanging below.

Try to get some angles pointing up and some pointing down.

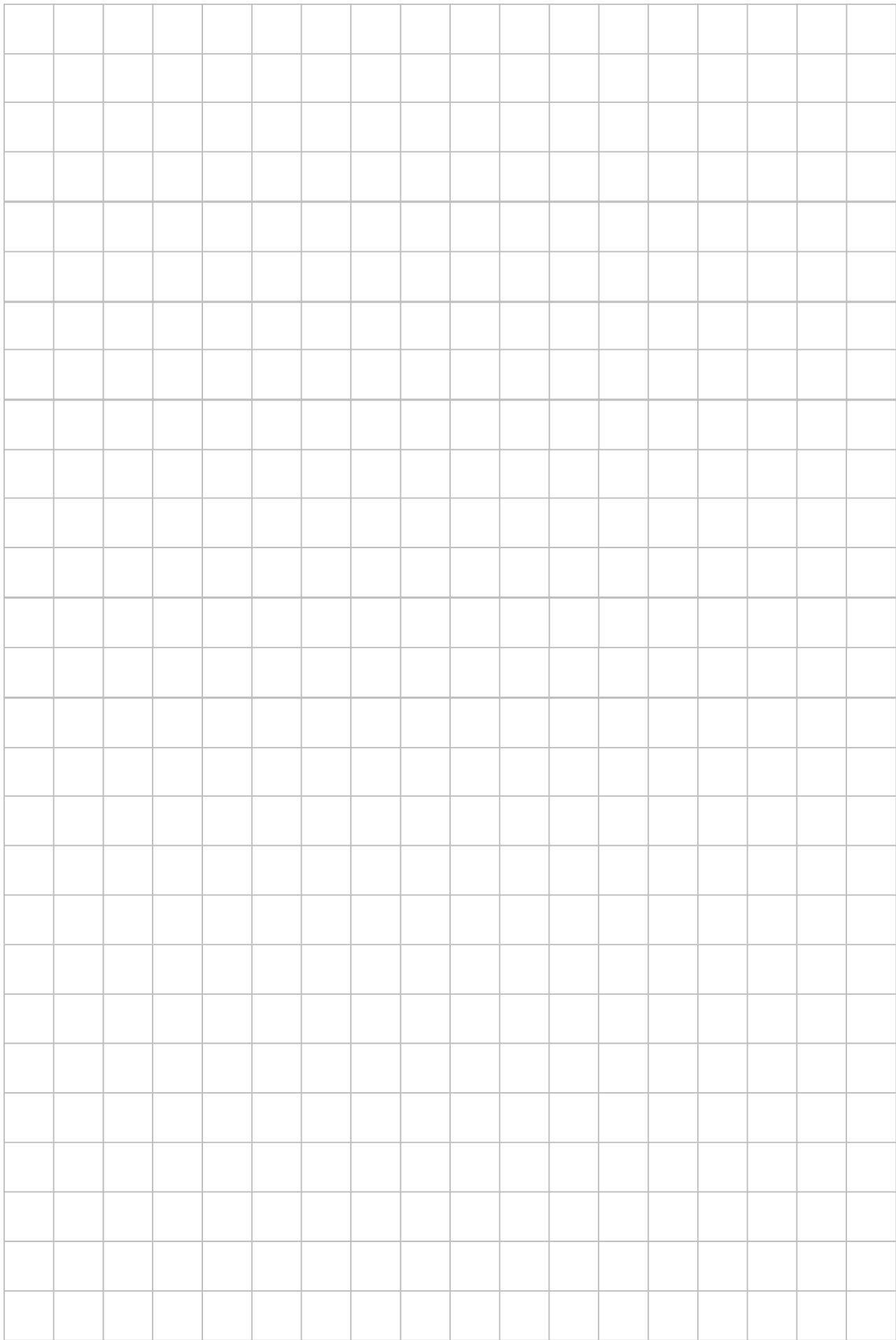
If you cannot get a mixture, don't worry.

The important thing is that you draw the angles NEATLY and ACCURATELY.



100° 110° 120° 130° 140° 150° 160° 170°

A large 10x10 grid of squares, intended for drawing the specified angles.



Name: _____

Date: _____

Maths Year 7, Spring 1

Drawing obtuse angles to nearest °

Protractor.8/16

Instructions – READ ME!

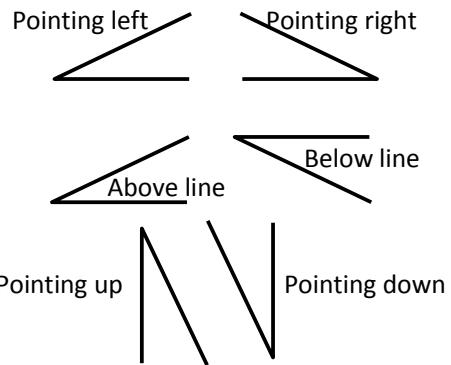
Draw the following angles NEATLY and ACCURATELY on the grid below.

Try to do a mixture of angles pointing to the left and pointing to the right.

Try to get some **above the line** and some hanging **below**.

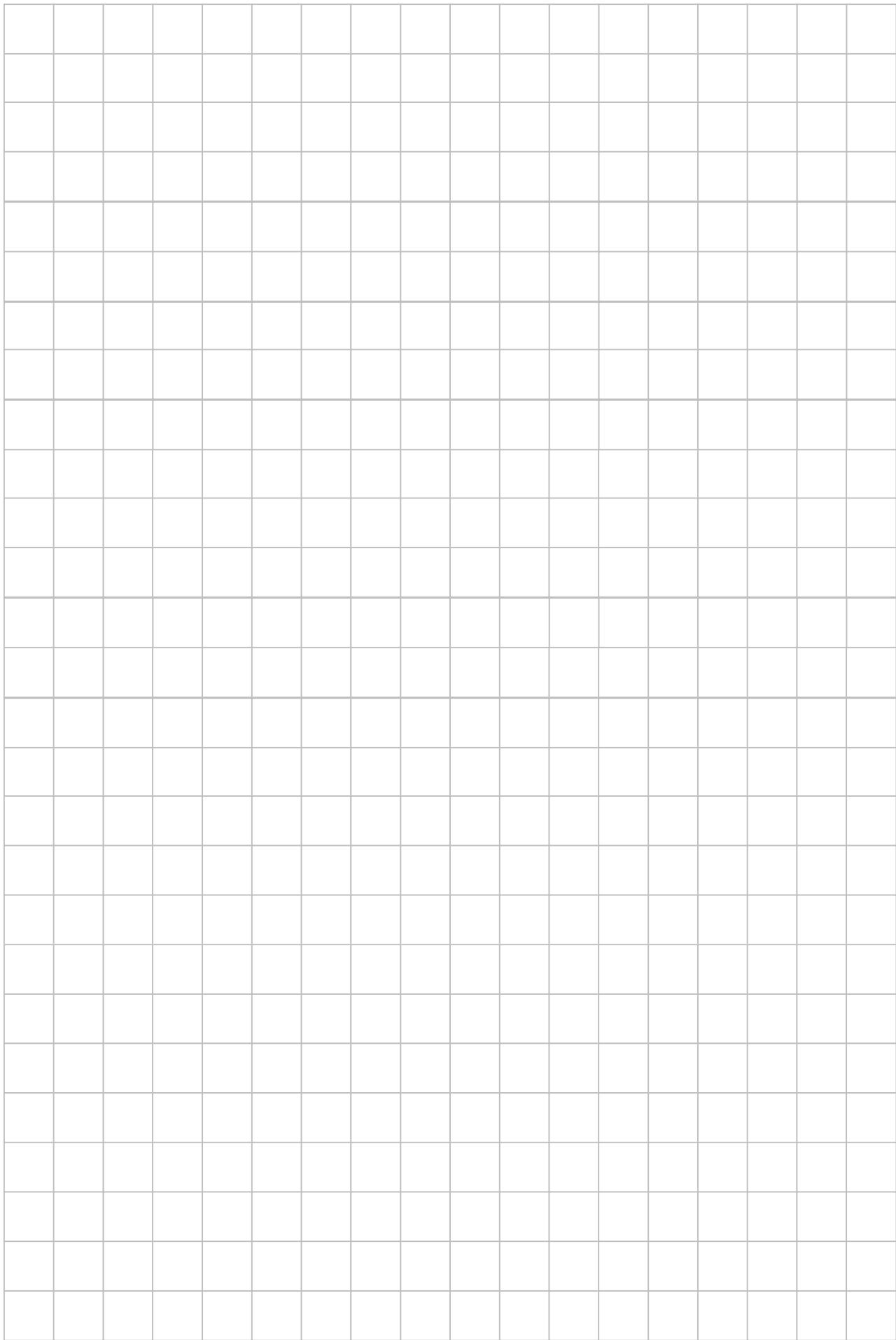
Try to get some angles **pointing up** and some **pointing down**.

If you cannot get a mixture, don't worry.



The important thing is that you draw the angles NEATLY and ACCURATELY.

105° 118° 135° 141° 158° 163° 174°



Name: _____

Date: _____

Maths Year 7, Spring 1

Drawing reflex angles

Protractor.9/16

Instructions – READ ME!

Draw the following angles NEATLY and ACCURATELY on the grid below.

Try to do a mixture of angles pointing to the left and pointing to the right.

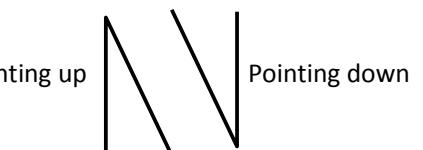
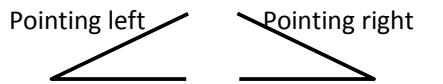
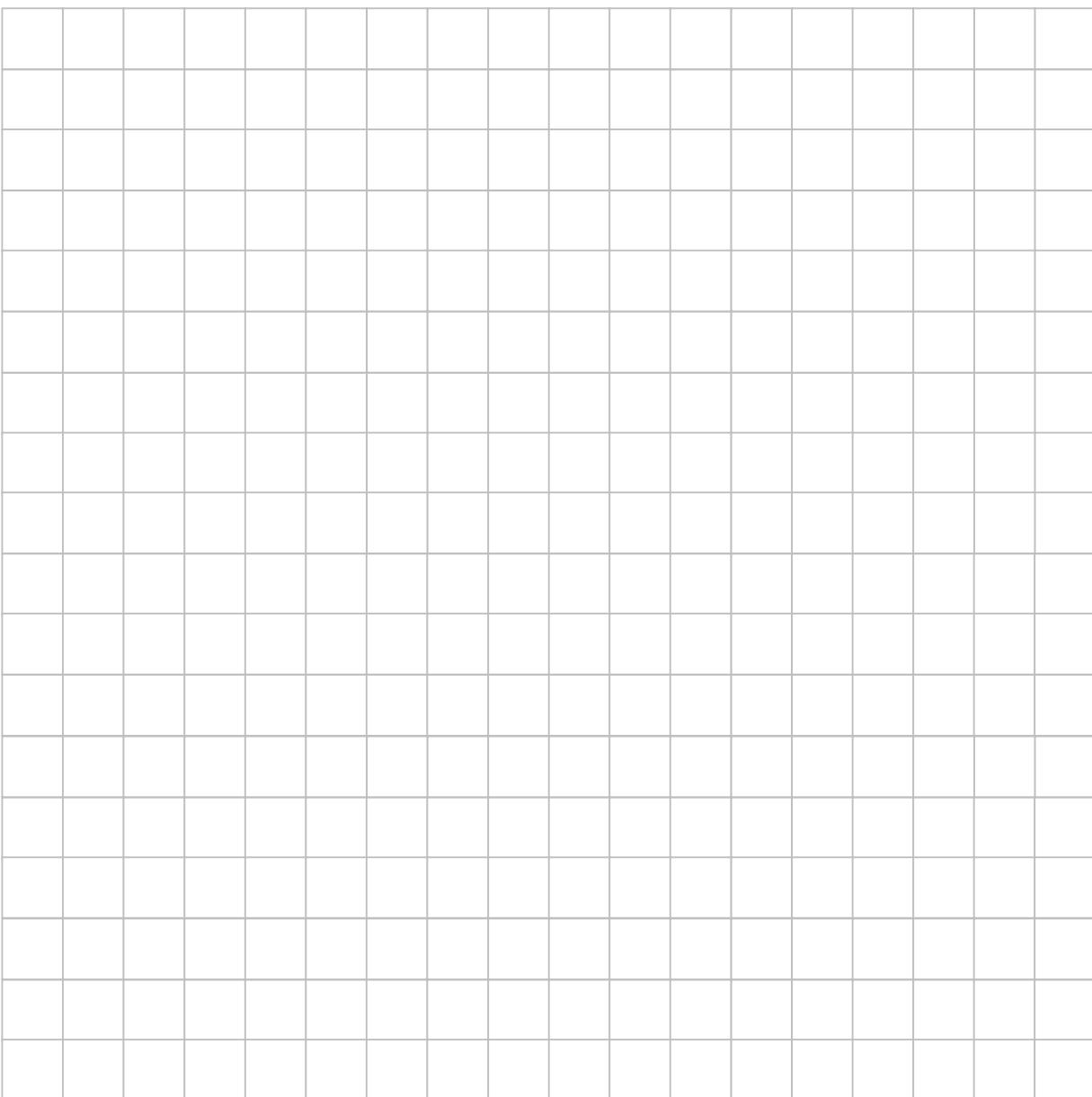
Try to get some above the line and some hanging below.

Try to get some angles pointing up and some pointing down.

If you cannot get a mixture, don't worry.

The important thing is that you draw the angles NEATLY and ACCURATELY.

200° 225° 270° 315° 330° 350°

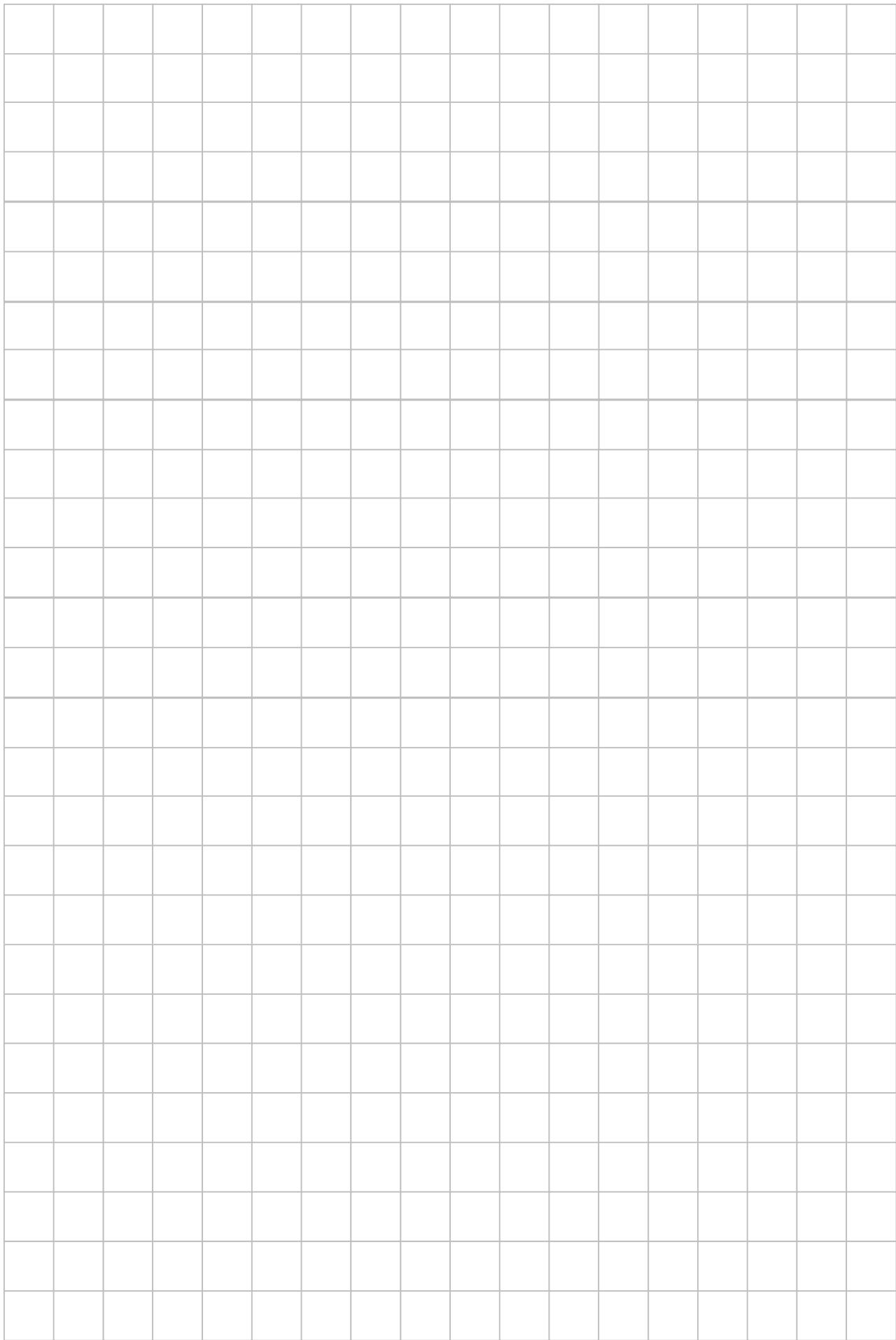


Above line

Below line

Pointing up

Pointing down



Name: _____

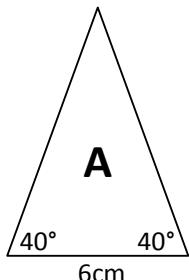
Date: _____

Maths Year 7, Spring 1

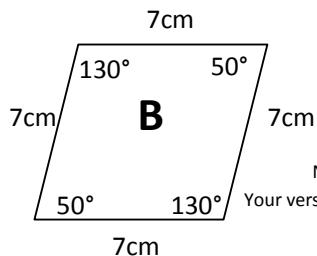
Drawing triangles and quadrilaterals Protractor.10/16

Instructions

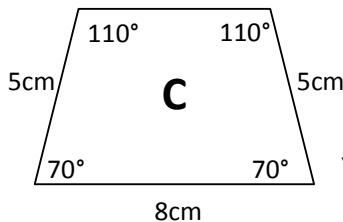
Draw the following shapes NEATLY and ACCURATELY on the grid below.



Not drawn accurately.
Your version may look different to this.

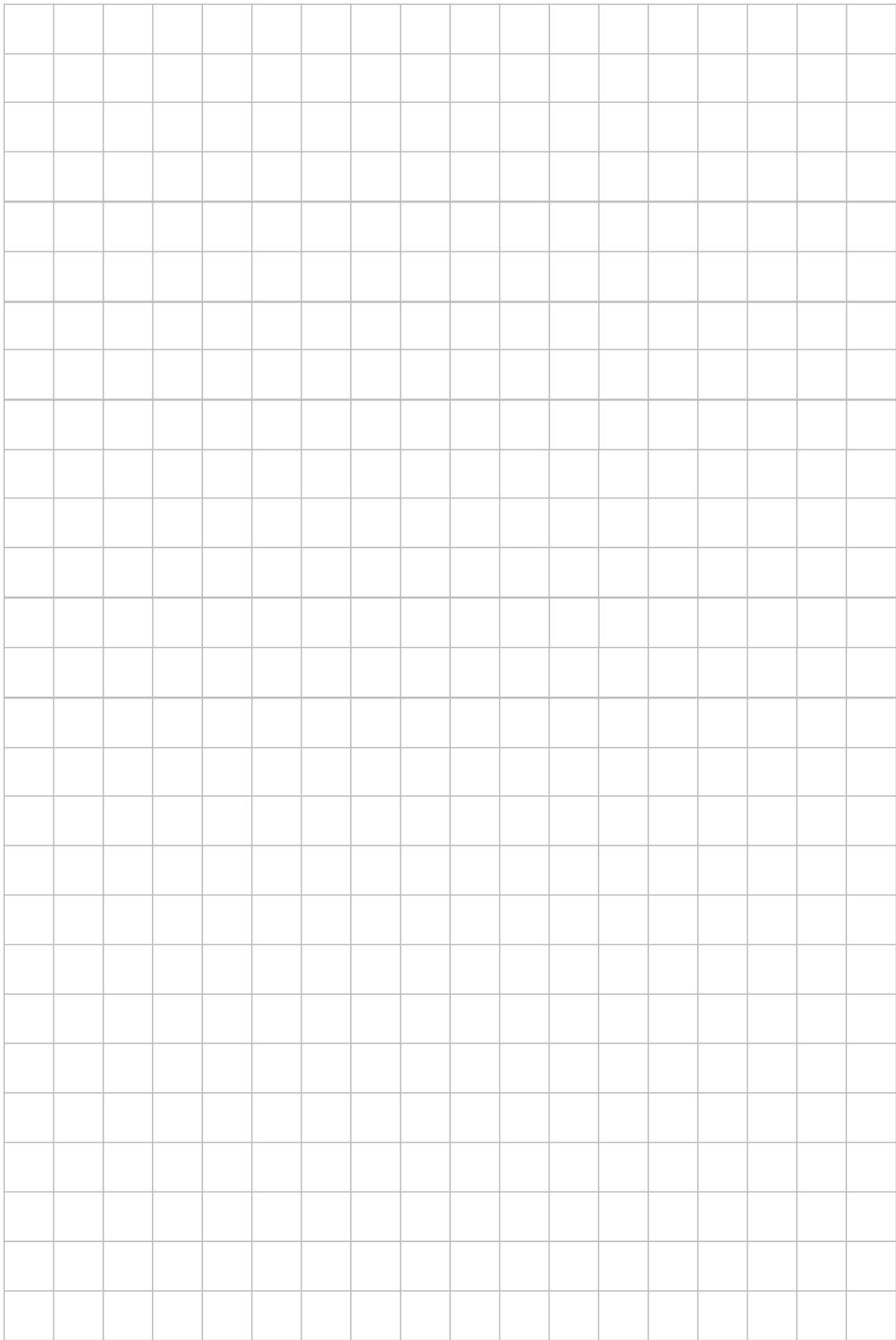


Not drawn accurately.
Your version may look different to this.



Not drawn accurately.
Your version may look different to this.

Bonus marks – name each shape and measure the missing sides of your drawings with a ruler.



Name: _____

Date: _____

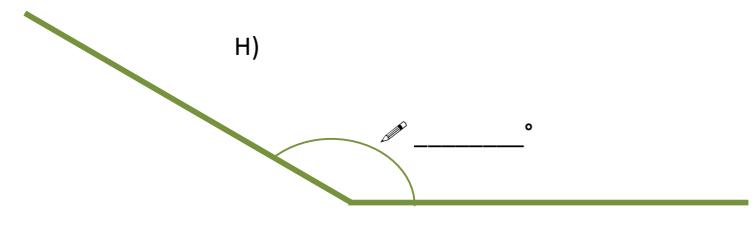
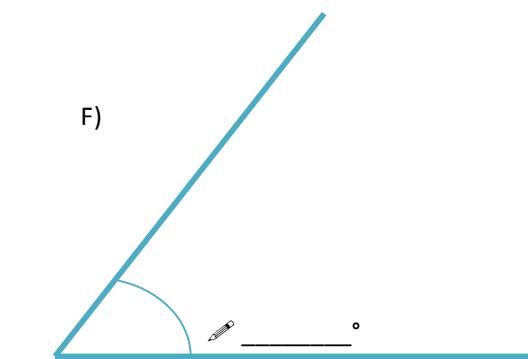
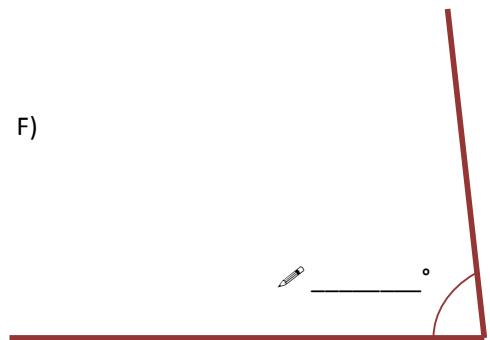
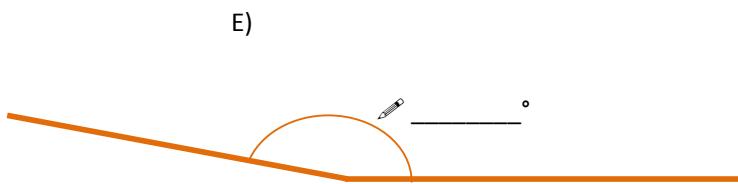
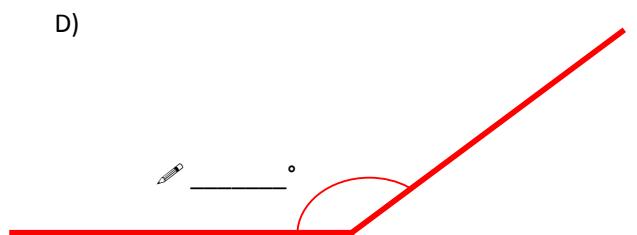
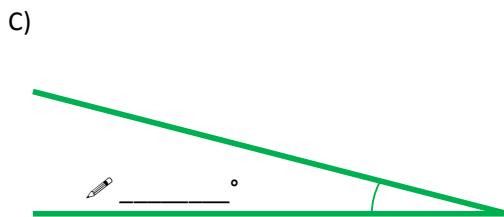
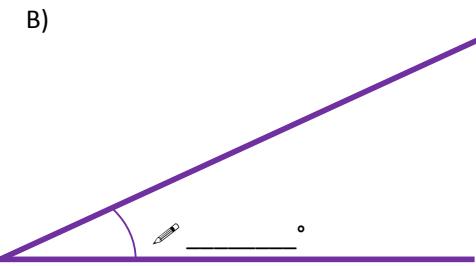
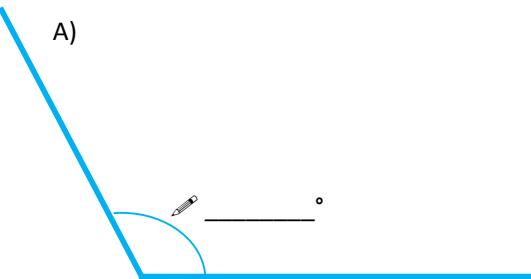
Maths Year 7, Spring 1

Measuring Acute & Obtuse Angles

Measuring Angles.11-14/16

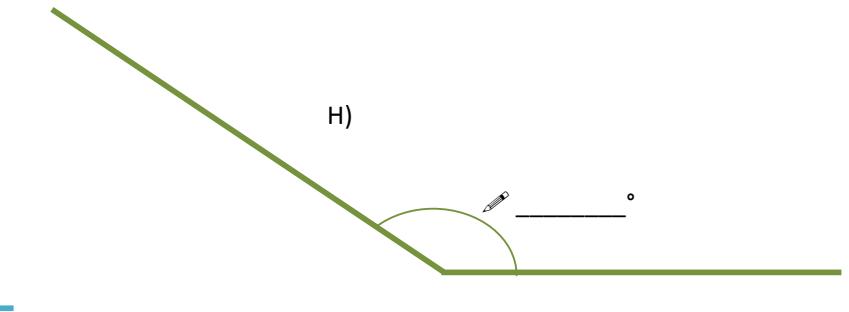
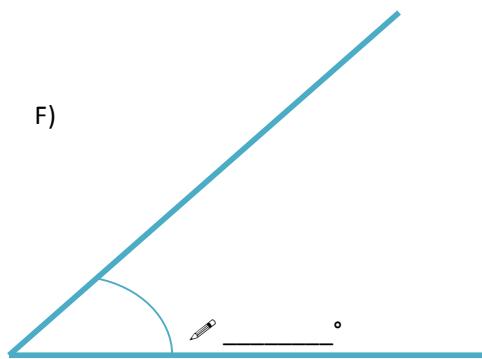
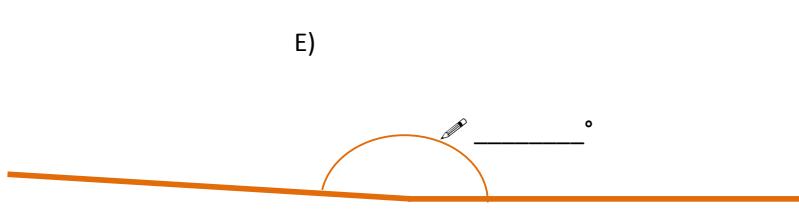
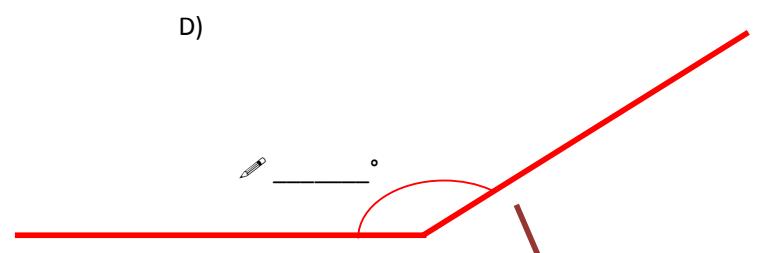
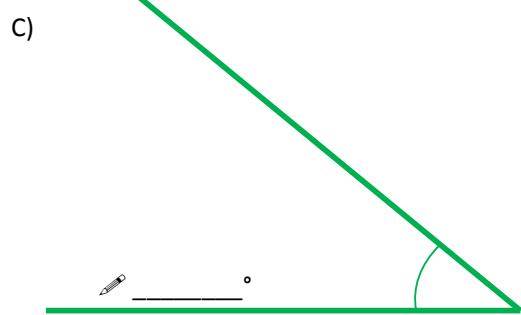
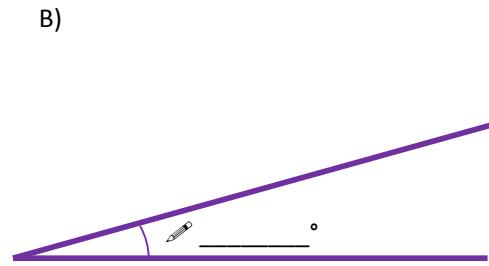
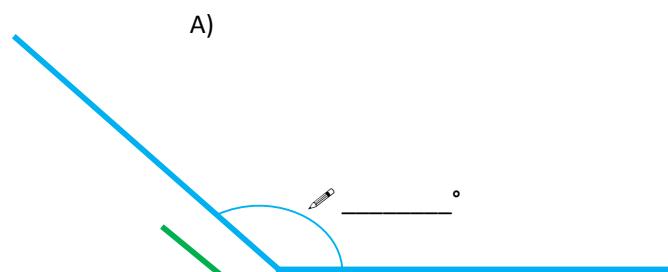
Instructions – READ ME!

Measure these angles carefully.



Now ask for your work to be validated.

You don't have to do these. These are only if the teacher asks you to do them for extra practice.



Name: _____

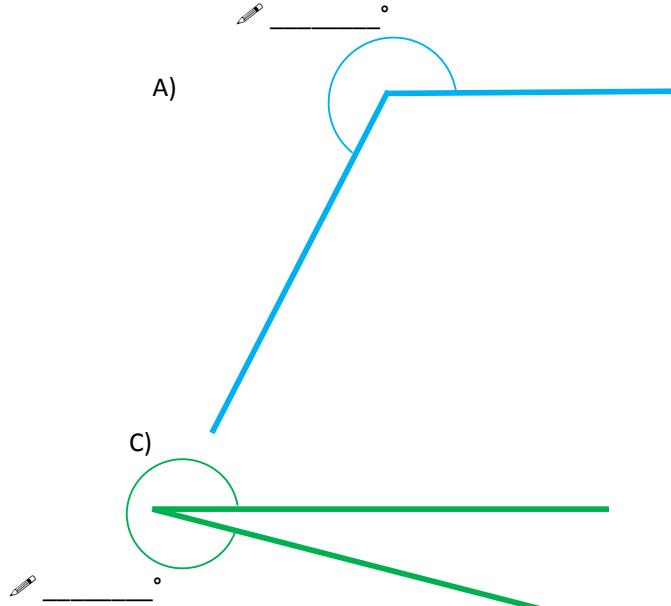
Date: _____

Maths Year 7, Spring 1

Measuring Reflex Angles

Measuring Angles.15/16

Measure the angles with a protractor.



Now ask for your work to be validated.