9/02/21

(Starter) O LO: Can I identify common factors of a series of numbers?

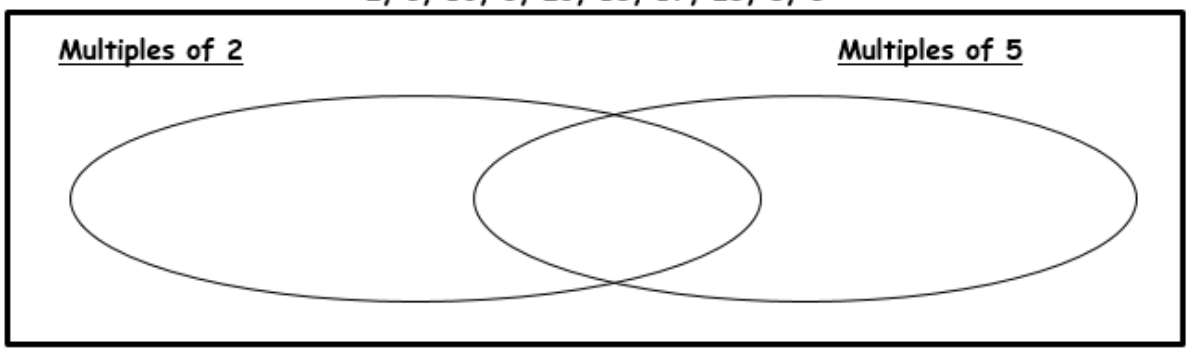
(Main) O LO: Can I recap my knowledge of the different types of angles and identify them?

For further guidance on the tasks today, click the link on Class 4's timetable titled 'Maths – weekly input'.

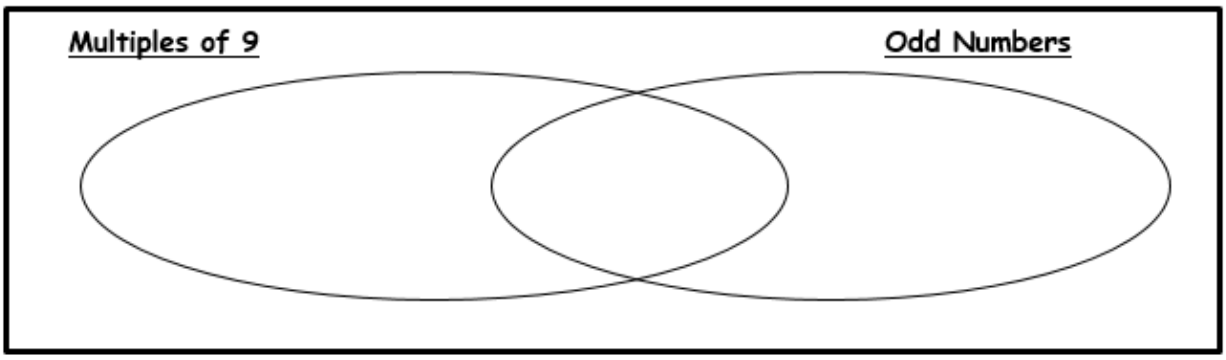
Starter

Sort the numbers below into the correct section of the Venn diagram.

2, 5, 10, 3, 20, 15, 17, 25, 8, 6




24, 7, 5, 2, 45, 63, 36




Main task

Work through the questions about angles below. Can you:

- Identify the types of angles they are (e.g. acute, obtuse, reflex etc.).
- Estimate the size of the angle

## Concepts

Children should be able to use, read and write the following vocabulary:

***Turn, rotate, whole turn, half turn, quarter turn, angle, right angle, acute, obtuse, straight line, degree, ruler, set square, angle measurer, protractor.***

The most important thing that children should understand about angles is that they are a **measure of turn**.

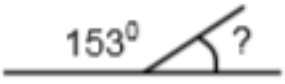
Patterns can be made by rotating shapes such as set-squares. As this is done emphasis should be given to the fact that this involves rotation. If a whole number of angles complete one rotation (six $60^0$ angles of a set-square, for instance, it should be understood that this makes one whole rotation or $360^0$).

Children should know the meaning of acute and obtuse as well as right angle, and should be able to differentiate between the three types by observation. They should be becoming better at estimating angles, although this is difficult even for adults. The Primary Framework for Mathematics specifies estimating an angle to within $5^0$, but frankly, I would like to see them do this! Allow good margins of error when estimating.

They should be able to spot acute and obtuse angles in the classroom/home. If you live in a very right angled environment, it is possible to create some acute and obtuse angles in advance (doors and windows opening, the lid of a CD case opening, a book on display with some pages visible, an open folder, clocks, displays of some letters of the alphabet such as V or X, for example).

Children should be able to measure angles using a protractor to within $5^0$. A protractor is a difficult instrument to use because (i) it measures rotation, not the length of the arms of the angle (ii) it has two scales going in opposite directions (iii) it has extra plastic below the zero line to protect the useful part, but this often obscures the zero line (iv) children do not always appreciate that it has a zero line that must be placed on one of the sides of the angle and (v) one needs to be quite dextrous to align the zero line with one side, whilst placing the 'centre' of the protractor on the vertex of the angle. Children should therefore be given much practice in its use and much patience needs to be shown by the teacher/parent.

Lastly, children should be able to calculate the value of a second angle on a straight line, if the first is given.



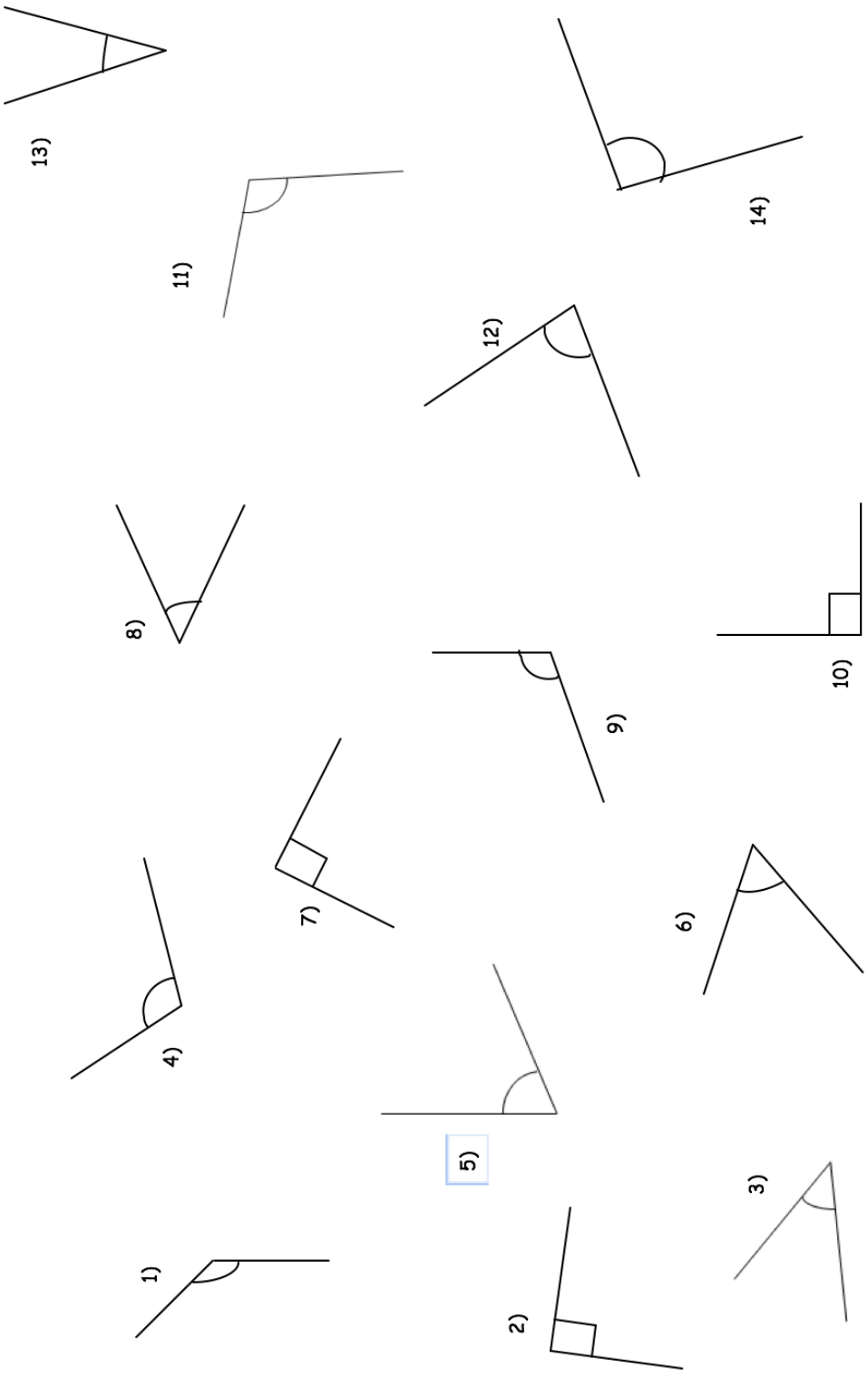
Write here what an acute angle is.

Write here what an obtuse angle is.

Main task

Work through the questions about angles below. Can you:

- Identify the types of angles they are (e.g. acute, obtuse, reflex etc.).
- Estimate the size of the angle



Estimate the size of each of these angles to the **nearest $5^0$** ($5^0$, $10^0$, $15^0$, $20^0$ and so on).

Then measure the angles to the **nearest $5^0$**.

Put all your results in the table.

a)

b)

c)

d)

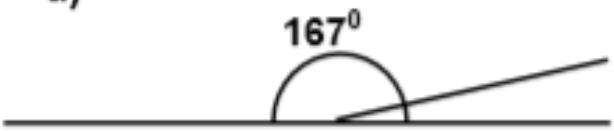
e)

| Shape | Estimated angle | Measured angle |
|---|---|---|
| a) | | |
| b) | | |
| c) | | |
| d) | | |
| e) | | |

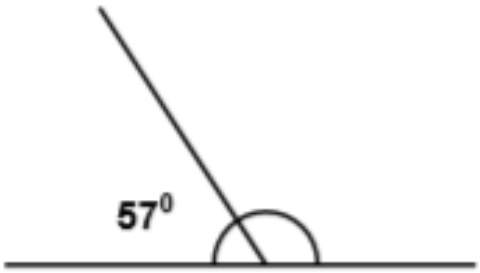
**Calculate** the missing angles. These are not drawn to scale, so do **not** measure the angles.

Write the missing angles on the diagrams.

a)

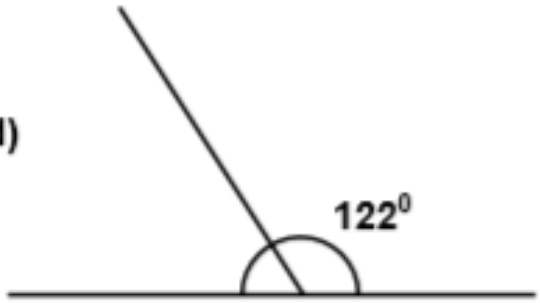



b)

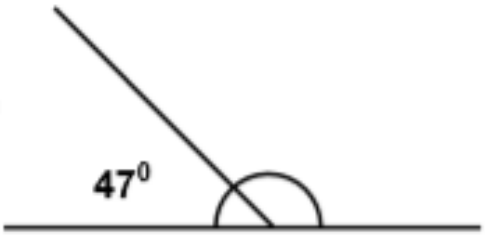



c)


d)




e)




f)

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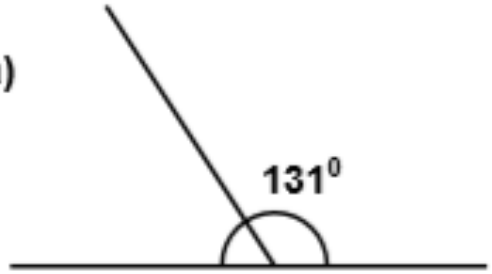


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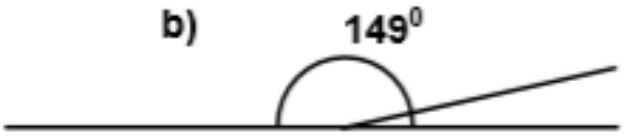


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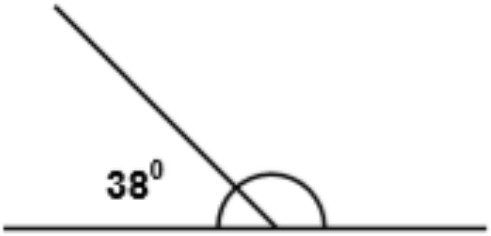


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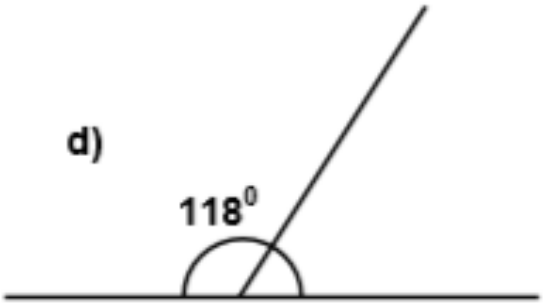


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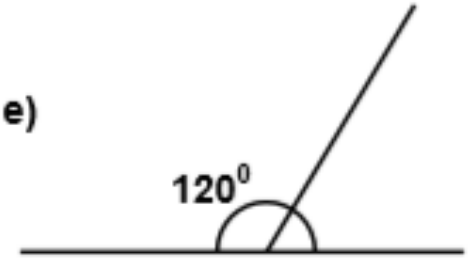


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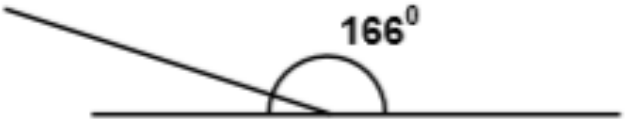

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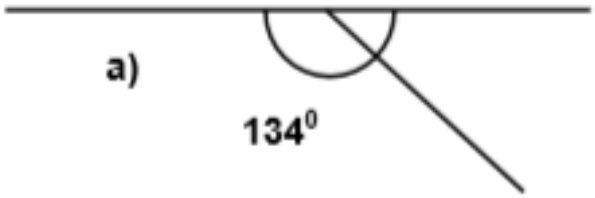
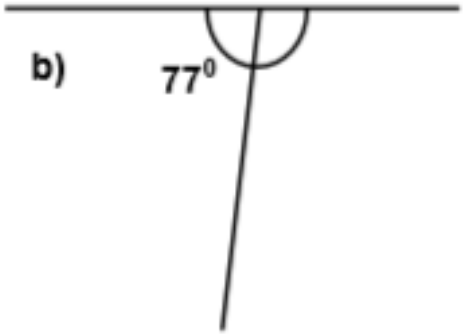
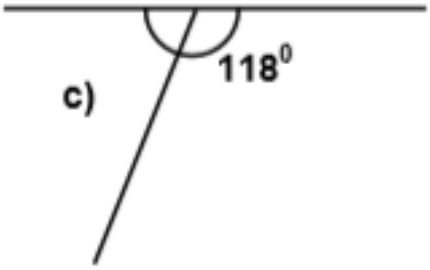



b)

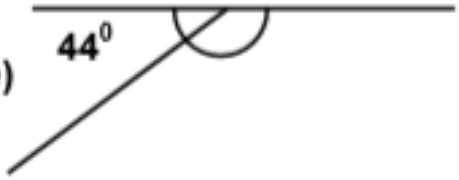



c)

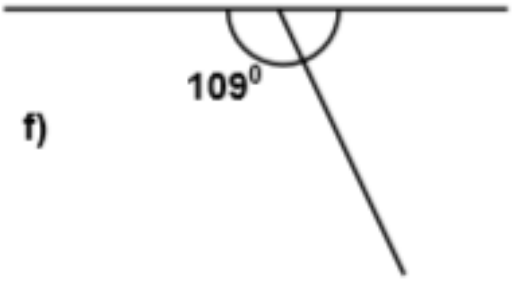



d)


e)




f)



# Answers

**Page 3**

An acute angle is one that is greater than $0^0$ and less than $90^0$.
An obtuse angle is one that is greater than $90^0$ and less than $180^0$.

**Page 4**

**a)** $20^0$ **b)** $100^0$ **c)** $45^0$ **d)** $140^0$ **e)** $130^0$

**Page 5**

**a)** $30^0$ **b)** $105^0$ **c)** $55^0$ **d)** $130^0$ **e)** $125^0$

**Page 6**

**a)** $140^0$ **b)** $45^0$ **c)** $105^0$ **d)** $15^0$ **e)** $125^0$

**Page 7**

**a)** $13^0$ **b)** $123^0$ **c)** $119^0$ **d)** $58^0$ **e)** $133^0$
**f)** $162^0$

**Page 8**

**a)** $49^0$ **b)** $31^0$ **c)** $142^0$ **d)** $62^0$ **e)** $60^0$
**f)** $14^0$

**Page 9**

**a)** $46^0$ **b)** $103^0$ **c)** $62^0$ **d)** $148^0$ **e)** $136^0$
**f)** $71^0$