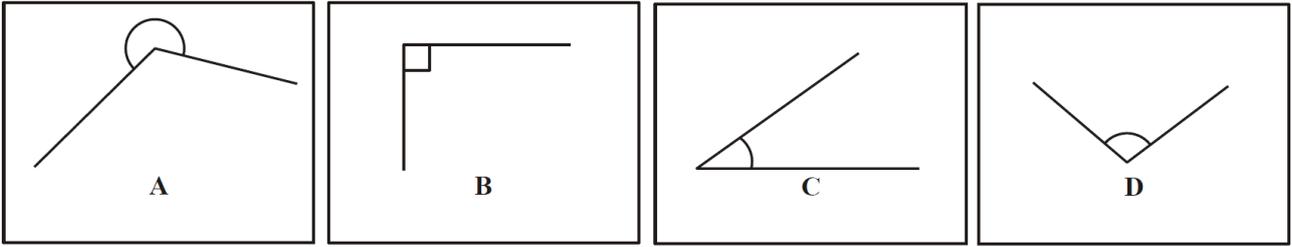


Year 9 Foundation

1. Name the angles below. (4 marks)



2. Find the missing angles in the questions below. (Total 9 marks)

(a) $a =$

(b) $b =$

(c) $c =$

(d) $d =$

(e) $e =$ $f =$

(f) $g =$

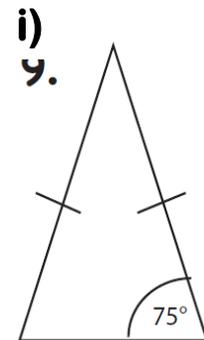
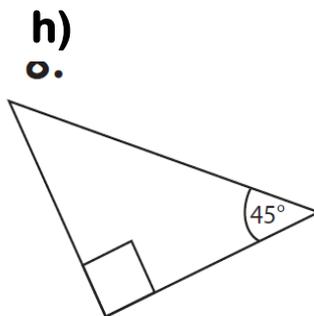
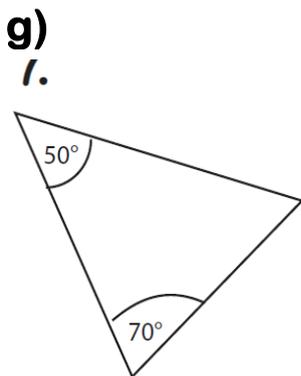
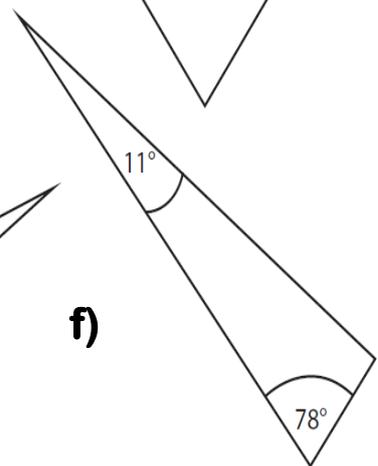
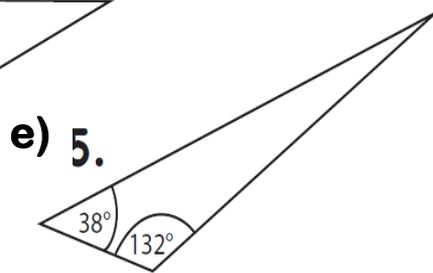
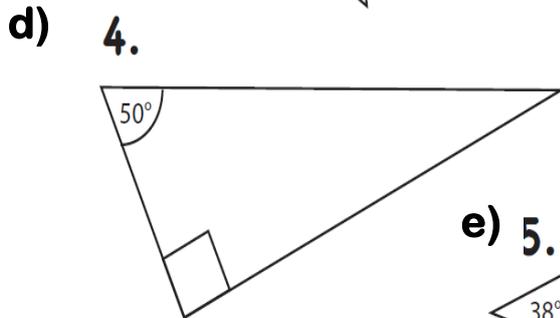
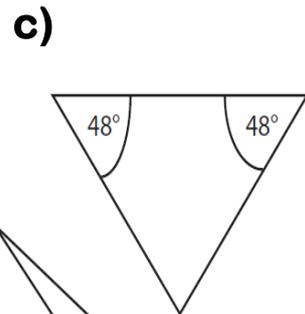
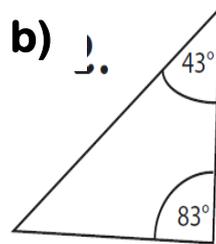
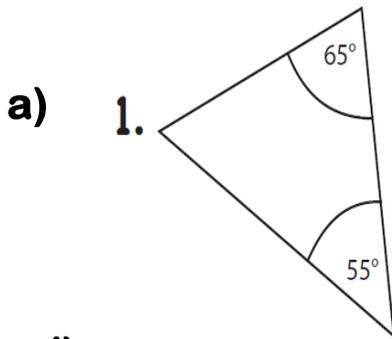
(g) $h =$

(h) $i =$

(i) $j =$

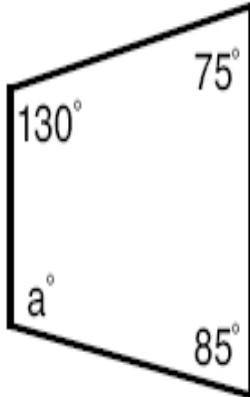
Remember... Angles on a straight line add up to 180°
Angles around a point add up to 360°

3. Find the missing angles below. (Total 9 marks)

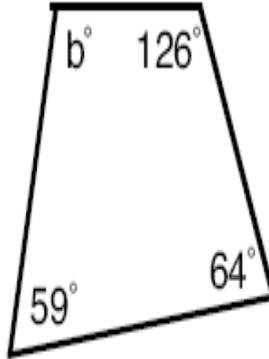


4. Find the missing angles below. (Total 6 marks)

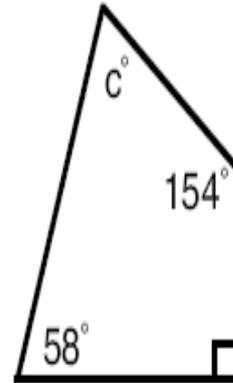
a)



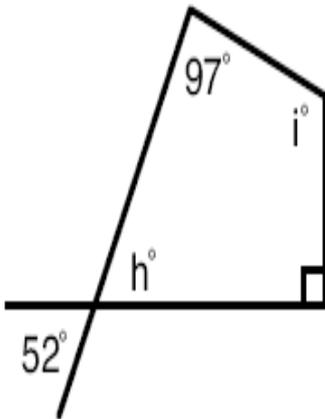
b)



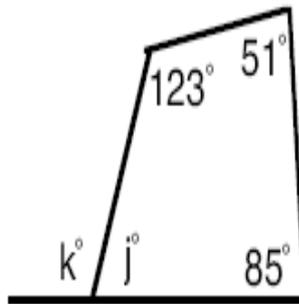
c)



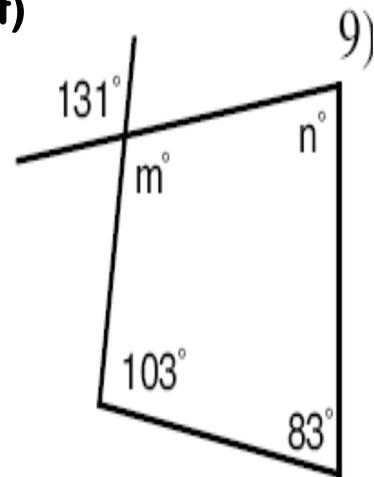
d)



e)



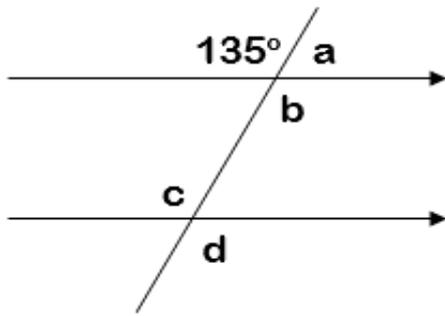
f)



Remember... Angles in a triangle add up to 180°
 Angles in a quadrilateral add up to 360°
 Opposite angles are equal

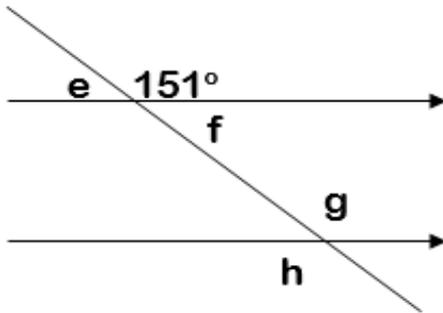
5. Calculate the value of the letters in each question. (Total 8 marks)

1)



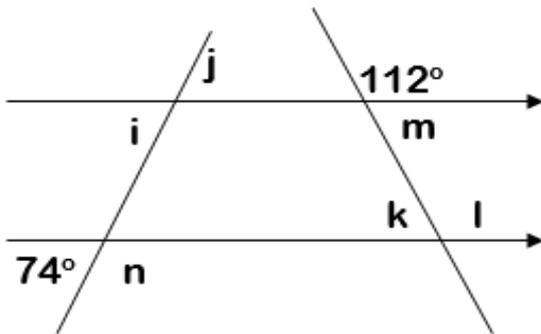
a =
 b =
 c =
 d =

2)



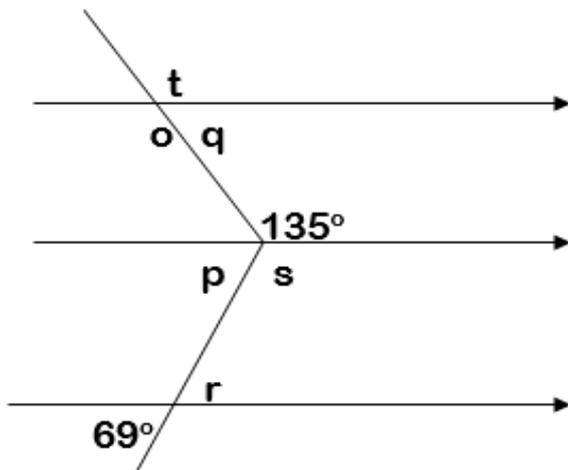
e =
 f =
 g =
 h =

3)



i =
 j =
 k =
 l =
 m =
 n =

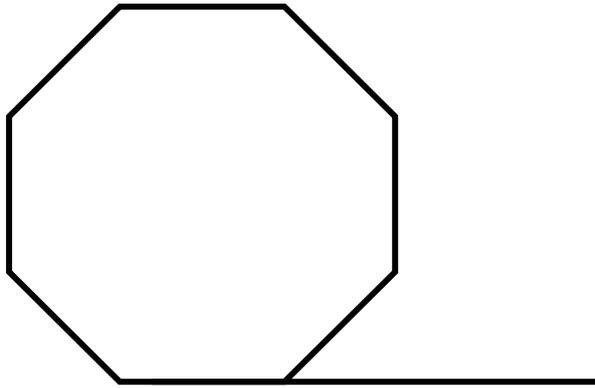
4)



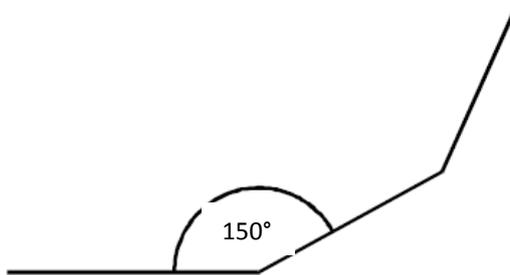
o =
 p =
 q =
 r =
 s =
 t =

**Remember... Alternate angles (Z angles) are equal.
 Corresponding angles (F angles) are equal.
 Interior angles (C angles) add up to 180°.**

6. Calculate the size of the interior and exterior angle below. (4 marks)



7. Calculate the number of sides of the polygon (each exterior angle is 150°) (2 marks)



Not drawn accurately

Remember... Exterior Angle =	$\frac{360^\circ}{\text{number of sides}}$
Interior Angle =	$180^\circ - \text{exterior angle}$
Number of sides =	$\frac{360^\circ}{\text{exterior angle}}$

8.

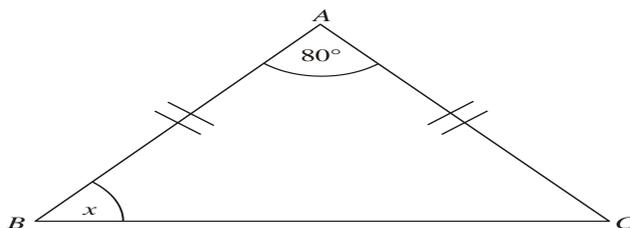


Diagram NOT accurately drawn

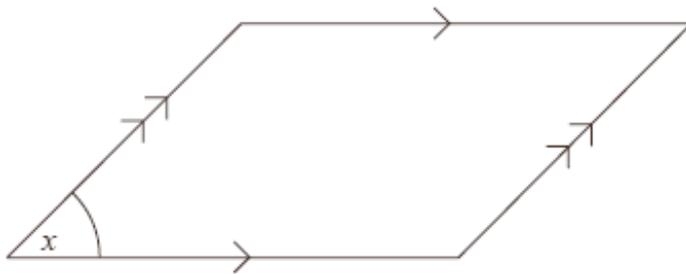
ABC is an isosceles triangle.

The angle marked x is 50° .
 Give reasons why.

.....

(Total 2 marks)

9.



(a) Write down the name of this quadrilateral.

.....
 (1)

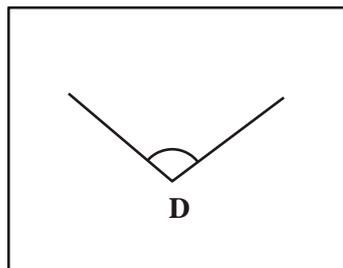
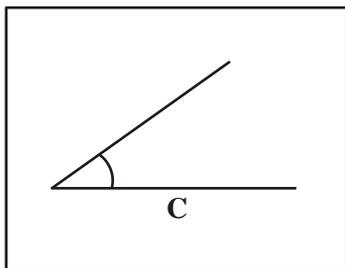
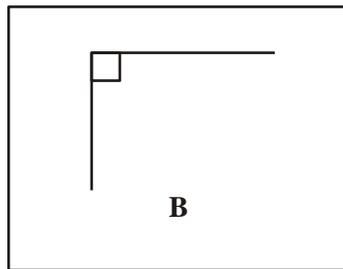
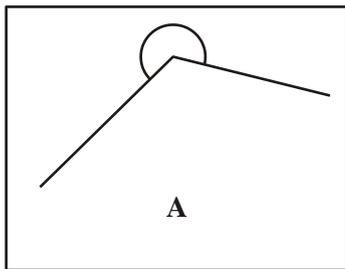
(b) Mark, with the letter B, an obtuse angle.

(1)

(c) Write down an estimate for the size of the angle marked x $^\circ$

(1)

10.



One of the four angles marked in the diagrams above is an obtuse angle.

(a) Write down the letter of the diagram in which the obtuse angle is marked.

.....
(1)

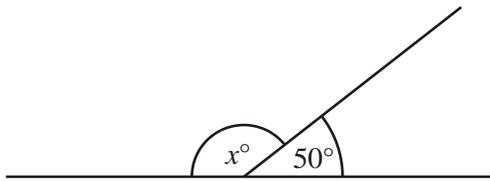


Diagram NOT
accurately drawn

(b) Work out the size of the angle marked x° .

.....^o
(2)
(Total 3 marks)

Questions on frequency distribution and data analysis

1. The number of members in 20 families are given below:

4, 6, 5, 5, 4, 6, 3, 3, 5, 5, 3, 5, 4, 4, 6, 7, 3, 5, 5, 7

Prepare a frequency distribution of data. (Total 3 marks)

2. A dice was thrown 30 times and the following outcomes were noted:

2, 1, 2, 4, 6, 1, 2, 3, 6, 5, 4, 4, 3, 1, 1, 3, 1, 1, 5, 6, 6, 2, 2, 3, 4, 2, 5, 5, 6, 4

Prepare a frequency table. (Total 3 marks)

3. The following data gives the number of children in 40 families:

1, 2, 6, 5, 1, 5, 1, 3, 2, 6, 2, 3, 4, 2, 0, 4, 4, 3, 2, 2, 0, 0, 1, 2, 2, 4, 3, 2, 1, 0, 5, 1, 2, 4, 3, 4, 1, 6, 2, 2

Represent it in the form of a frequency distribution. (Total 5 marks)

4. The marks obtained by 40 students of a class in an examination are given below:

8, 47, 22, 31, 17, 13, 38, 26, 3, 34, 29, 11, 22, 7, 15, 24, 38, 31, 21, 35, 42, 24, 45, 23, 21, 27, 29, 49, 25, 48, 21, 15, 18, 27, 19, 45, 14, 34, 37, 34

Prepare a frequency distribution table with equal class intervals, starting from 0-10 (where 10 is not included). (Total 5 marks)

4 A researcher is investigating how much the employees at a large company are paid.

One hypothesis she investigates is “Men are paid more than women”. The researcher could find it difficult to collect information to test her hypothesis.

(a) Give one difficulty the researcher could have when trying to find out how much each employee is paid.

.....
..... (1)

(b) State the population for this investigation.

.....
.....(1)

(c) (i) Explain the difference between primary data and secondary data.

.....
.....
(2)

(ii) The researcher plans to collect primary data. Give a reason why.

.....
.....
(1)

The researcher plans to give a questionnaire to 60 employees of the company.

She asks the first 30 males and the first 30 females who come into work one morning to complete her questionnaire.

(d) Give one advantage and one disadvantage of this sampling method.

Advantage.....
.....
.....

Disadvantage.....
.....
.....

(2)

(Total for Question 4 is 7 marks)

Questions on Averages and Range

1. Chloe made a list of her homework marks.

4 5 5 5 4 3 2 1 4 5

(a) Write down the mode of her homework marks.

.....(1)

(b) Work out her mean homework mark.

.....(2) (Total 3 marks)

2. Peter rolled a 6-sided dice ten times. Here are his scores.

3 2 4 6 3 3 4 2 5 4

(a) Work out the median of his scores.

.....(2)

(b) Work out the mean of his scores.

.....(2)

(c) Work out the range of his scores.

.....(1) (Total 5 marks)

3. Here are the weights, in kg, of 8 people.

63 65 65 70 72 86 90 97

(a) Write down the mode of the 8 weights.

..... kg (1)

(b) Work out the range of the weights.

..... kg (2) (Total 3 marks)

4. Here are the ages of 6 people.

5 18 10 14 22 12

(a) Work out the range of these ages.

..... (1)

(b) Find the median age.

.....(2)

(c) Work out the mean age.

.....(2) (Total 5 marks)

5. Jalin wrote down the ages, in years, of seven of his relatives.

45, 38, 43, 43, 39, 40, 39

(a) Find the median age.

.....(1)

(b) Work out the range of the ages.

.....(1)

(c) Work out the mean age.

.....(2) (Total 4 marks)

6. Tom recorded the shoe size of five of his friends.

Here are his results.

8 9 3 4 7

(a) Work out the median shoe size.

.....(2)

Another friend has a shoe size of 8

(b) Work out the median shoe size of all six friends of Tom.

.....(2) (Total 4 marks)

7. The mean of eight numbers is 41. The mean of two of the numbers is 29. What is the mean of the other six numbers?

.....(Total 3 marks)

8. Jim did a survey on the lengths of caterpillars he found on a field trip.

Information about the lengths is given in the stem and leaf diagram.

1 3 5 7 7

Key: 5 | 2 means 5.2

cm

2 0 6 8 8 8 9

3 1 5 5 5 6 8 9

4 1 5

5 2

Work out the median.

..... cm (2 marks)

9. Here are the times, in minutes, taken to solve a puzzle.

5 10 15 12 8 7 20 35 24 15

20 33 15 24 10 8 10 20 16 10

(a) In the space below, draw a stem and leaf diagram to show these times. (3)

(b) Find the median time to solve this puzzle.

..... Mins (2) (5mark