

count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number	recognise the place value of each digit in a three-digit number (hundreds, tens, ones)	compare and order numbers up to 1000	identify, represent and estimate numbers using different representations	read and write numbers up to 1000 in numerals and in words	solve number problems and practical problems involving these ideas	add and subtract numbers mentally, including: a three-digit number and ones a three-digit number and tens a three-digit number and hundreds
add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction	estimate the answer to a calculation and use inverse operations to check answers	solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including two-digit numbers times one-digit numbers, using mental and progressing to formal written methods	solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which objects are connected to m objects	count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10
recognise, find and write fractions of a discrete set of objects; unit fractions and non-unit fractions with small denominators						recognise and use fractions as numbers; unit fractions and non-unit fractions with small denominators
recognise and show, using diagrams, equivalent fractions with small denominators						add and subtract fractions with the same denominator within one whole [for example, $5/7 + 1/7 = 6/7$ ]
compare and order unit fractions, and fractions with the same denominators	measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	measure the perimeter of simple 2-D shapes	add and subtract amounts of money to give change, using both £ and p in practical contexts	tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks	estimate time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight	know the number of seconds in a minute and the number of days in each month, year and leap year
compare durations of events [for example to calculate the time taken by particular events or tasks]	draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them	recognise angles as a property of shape or a description of a turn	identify right angles; recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle	identify horizontal and vertical lines and pairs of perpendicular and parallel lines	interpret and present data using bar charts, pictograms and tables	solve one-step and two-step questions [for example, "How many more?" and "How many fewer?"] using information presented in scaled bar charts and tables

# Stage 3 Mathematics



1 a) Find the next two numbers:

i) 4, 8, 12, 16, ..... , .....

ii) 50, 100, 150, 200, ..... , .....

b) What is 100 more than 768?

.....

c) What is 100 less than 156?

.....

(NPV1, 4 marks)

2 a) Find the value of  $\Delta$  in each of these statements:

i)  $\Delta = 500 + 30 + 2$

$\Delta =$  .....

ii)  $\Delta + 60 + 7 = 967$

$\Delta =$  .....

iii)  $100 + 30 + \Delta = 132$

$\Delta =$  .....

b) Complete the calculations:

i)  $707 - 100 = 607$

ii)  $666 - 99 =$  .....

$707 - 99 =$  .....

$666 - 100 =$  .....

$707 - 101 =$  .....

$666 - 101 =$  .....

(NPV2, 8 marks)



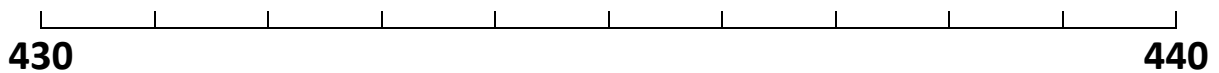
3 Write these numbers in order, from smallest to largest:

73    173    37    731    137    300    317

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(NPV3, 3 marks)

4 Show 432 on this number line:



(NPV4, 2 marks)

5 a) Write these numbers using numerals:

i) Four hundred and sixty:

.....

ii) Four hundred and six:

.....

iii) Four hundred and sixteen:

.....



b) Write these numbers in words:

i) 817: .....

.....

ii) 870: .....

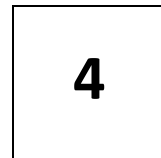
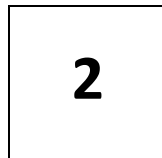
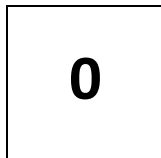
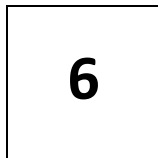
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iii) 807: .....

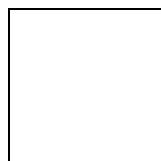
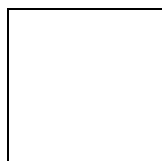
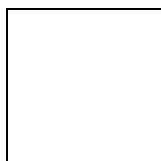
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(NPV5, 6 marks)

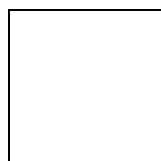
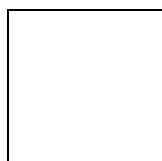
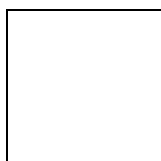
6 Here are some number cards



a) Choose three cards to make the smallest possible three-digit number



b) Choose three cards to make the largest possible three-digit number



(NPV6, 2 marks)



7 Calculate:

a)  $145 + 7$

d)  $356 - 9$

b)  $145 + 70$

e)  $356 - 50$

c)  $145 + 200$

f)  $356 - 200$

.....

.....

.....

.....

.....

.....

(AS1, 6 marks)

8 Calculate

a)  $167 + 74$

c)  $714 - 87$



.....

.....

b)  $479 + 247$

d)  $634 - 385$



.....

.....

(AS2, 8 marks)



- 9 a) Naomi estimates the answer to  $389 + 209$  as shown:

$$389 + 209 \approx 500$$

Do you agree with Naomi?

Explain your answer

.....

.....

.....

- b) Lucy says  $363 - 26 = 343$  because:

$$\begin{aligned} & \text{'}360 - 20 = 340 \\ & \quad 6 - 3 = 3 \\ & \text{so } 363 - 26 = 343\text{'} \end{aligned}$$

Do you agree with Lucy?

Use an addition calculation to justify your answer

.....

.....

.....

(A53, 4 marks)



10 a) Jesse is trying to solve the problem:

*There are 479 pupils in a school. 132 of the pupils are boys.*

*How many pupils are girls?*

i) Jesse draws a diagram to help.

Place a (✓) by the correct diagram.

132	
Girls	479

Girls	
132	479

479	
132	Girls

ii) How many pupils are girls?

..... pupils

b) Find the missing digits in this calculation

$$\begin{array}{r}
 \square 6 2 \\
 + 2 \square 6 \\
 \hline
 7 1 \square \\
 \hline
 \end{array}$$

(AS4, 5 marks)



11 Complete the number sentences:

i)  $3 \times 7 = \dots\dots\dots$

v)  $\dots\dots\dots \div 3 = 5$

ii)  $\dots\dots\dots \times 3 = 27$

vi)  $24 \div \dots\dots\dots = 3$

iii)  $7 \times \dots\dots\dots = 28$

vii)  $6 \times 4 = \dots\dots\dots \times 24$

iv)  $36 \div 3 = \dots\dots\dots$

viii)  $\dots\dots\dots \times 4 = 6 \times 8$

(MD1, 8 marks)

12 a) One apple costs sixteen pence.

Lorna is working out the cost of four apples.

i) Write a mathematical statement, involving multiplication or division, to represent the problem:

.....

ii) Find the cost of four apples.

.....

b) 48 sweets are shared equally between three children.

How many sweets will each child receive?

i) Write a mathematical statement, involving multiplication or division, to represent the problem:

.....

ii) Solve the problem.

.....

(MD2, 6 marks)





- 13 a) Shaz's ribbon is three times as long as John's.

John's ribbon is 8cm, how long is Shaz's?

.....

- b) How many different outfits can be created from 5 hats and 3 coats?

.....

(MD3, 4 marks)



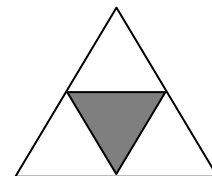
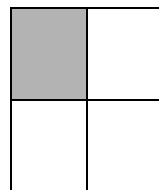
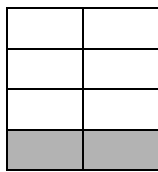
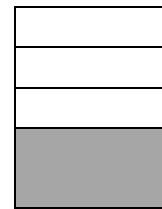
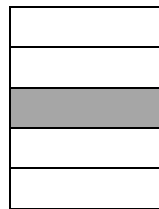
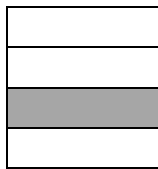
14 Look at this number line.

What numbers are the arrows pointing at? Fill in the empty boxes.

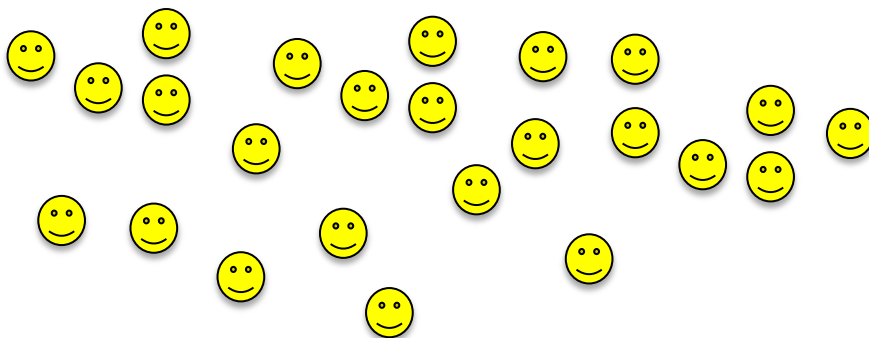


(F1, 3 marks)

15 a) Place a (✓) by the shapes that have one quarter shaded:



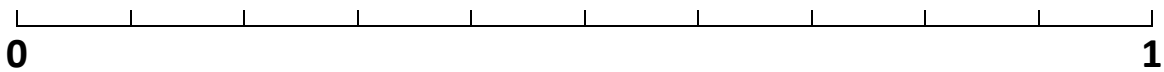
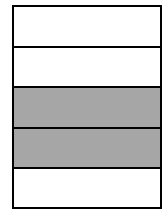
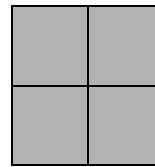
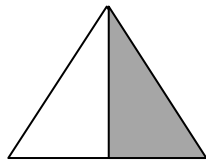
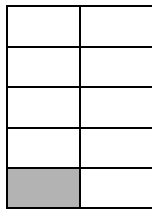
b) Draw a group around one third of the smiley faces.



(F2, 3 marks)

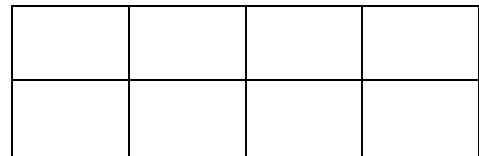
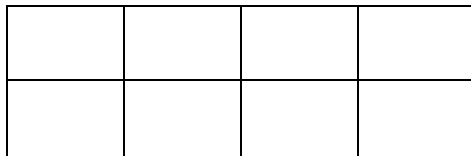


16 A fraction of each shape is shaded. Match each fraction to the correct place on the number line.



(F3, 4 marks)

17 a) Use the diagrams to explain why  $\frac{1}{2} = \frac{4}{8}$



b) Write down another pair of equivalent fractions:

..... and .....

(F4, 1 mark)

18 Calculate:

a)  $\frac{1}{3} + \frac{1}{3} =$

c)  $\frac{3}{4} - \frac{1}{4} =$

b)  $\frac{1}{5} + \frac{3}{5} =$

d)  $\frac{4}{7} - \frac{3}{7} =$

(F5, 4 marks)



19 Sort these numbers into ascending order, from smallest to largest:

$$\frac{1}{3} \quad \frac{1}{2} \quad \frac{1}{4} \quad \frac{1}{6}$$

--	--	--	--

(F6, 3 marks)

20 There are 24 pupils in a class.

$\frac{1}{2}$  of the pupils have brown hair.

$\frac{1}{3}$  of the pupils have black hair.

How many pupils do not have brown or black hair?

.....  
(F7, 5 marks)

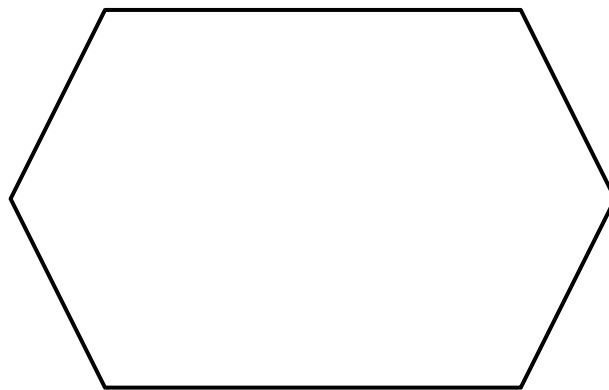


21 Are these statements true (T) or false (F)?

- a) Your teacher is shorter than one metre .....
- b) You are heavier than one kilogram .....
- c) A coffee mug holds more than one litre .....

(M1, 3 marks)

22 Find the perimeter of this shape.



.....  
(M2, 4 marks)

23 a) Bob wants to buy a comic costing £1.50.

He saves 30p one week and 65p the next week.

How much more money does he need to buy the comic?

.....



b) Jo's lunch costs £4.50.

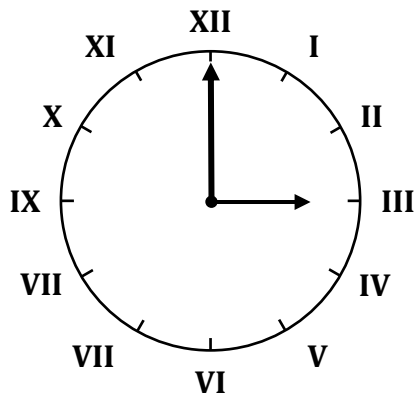
She pays with a £10 note.

Find three different ways in which she could receive her change.

.....  
(M3, 4 marks)

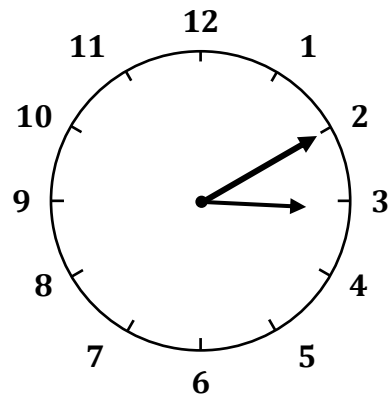
24 a) Write the time shown on each of the clocks

i)



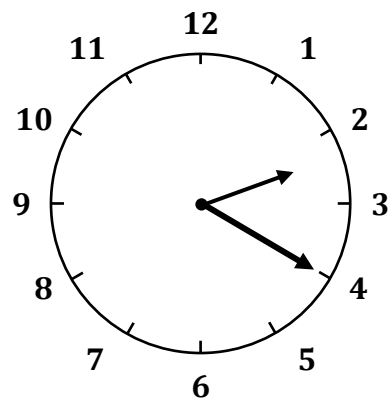
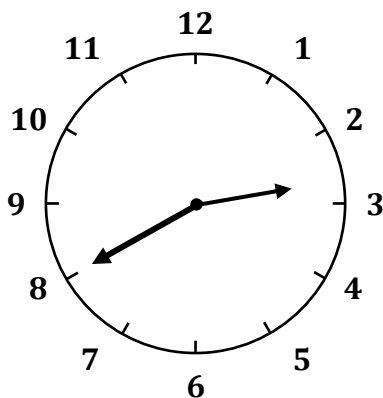
.....

ii)

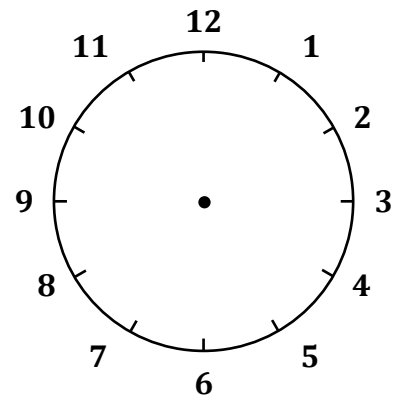


.....

b) Which clock shows the time 2:40? Tick the one that does.



c) Show the time 1:30 p.m.



(M4, 5 marks)

25 How many hours and minutes are there between the following times:

a) 9:00 a.m. and 11:30 a.m.

..... hours and ..... minutes

b) Noon and 2:30 p.m.

..... hours and ..... minutes

c) 11:30 a.m. and 4:15 p.m.

..... hours and ..... minutes

(M5, 3 marks)

26 Complete the statements:

a) There are ..... seconds in one minute

b) There are ..... days in one year

c) There are ..... days in a leap year

d) There are ..... days in December

e) There are ..... days in April

f) There are ..... days in June

(M6, 6 marks)



27 A television programme is 50 minutes long.

It starts at 10:30 a.m.

What time does the programme finish?

.....  
(M7, 2 marks)



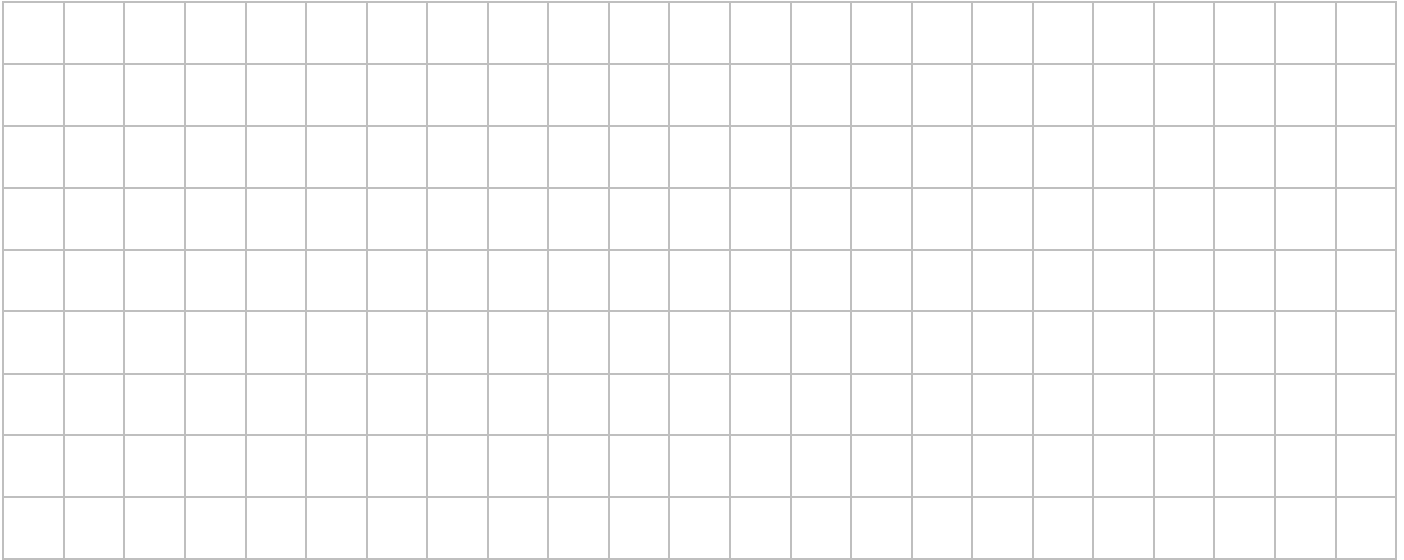


28 a) Draw an example of:

i) An isosceles triangle

ii) A trapezium

iii) A rhombus



b) Jade thinks that a cuboid is a type of prism.

Do you agree with Jade?

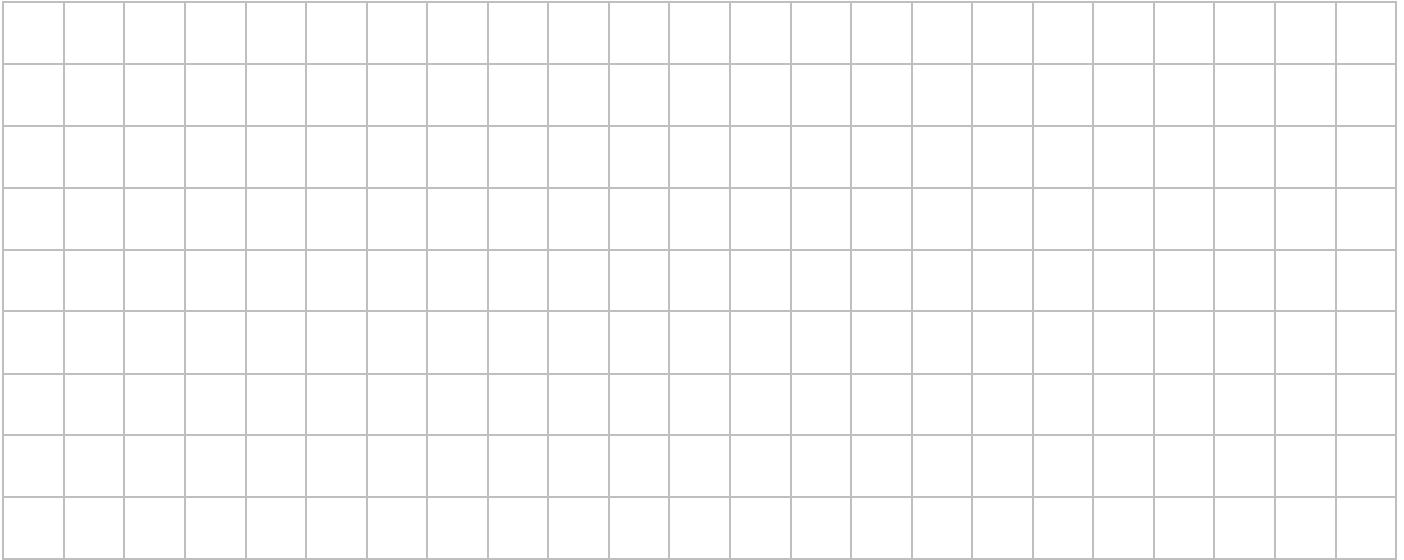
Explain your answer.

(GPS1, 5 marks)



29 Ruth thinks that a pentagon can have a right angle.

Draw a pentagon that shows Ruth is correct.



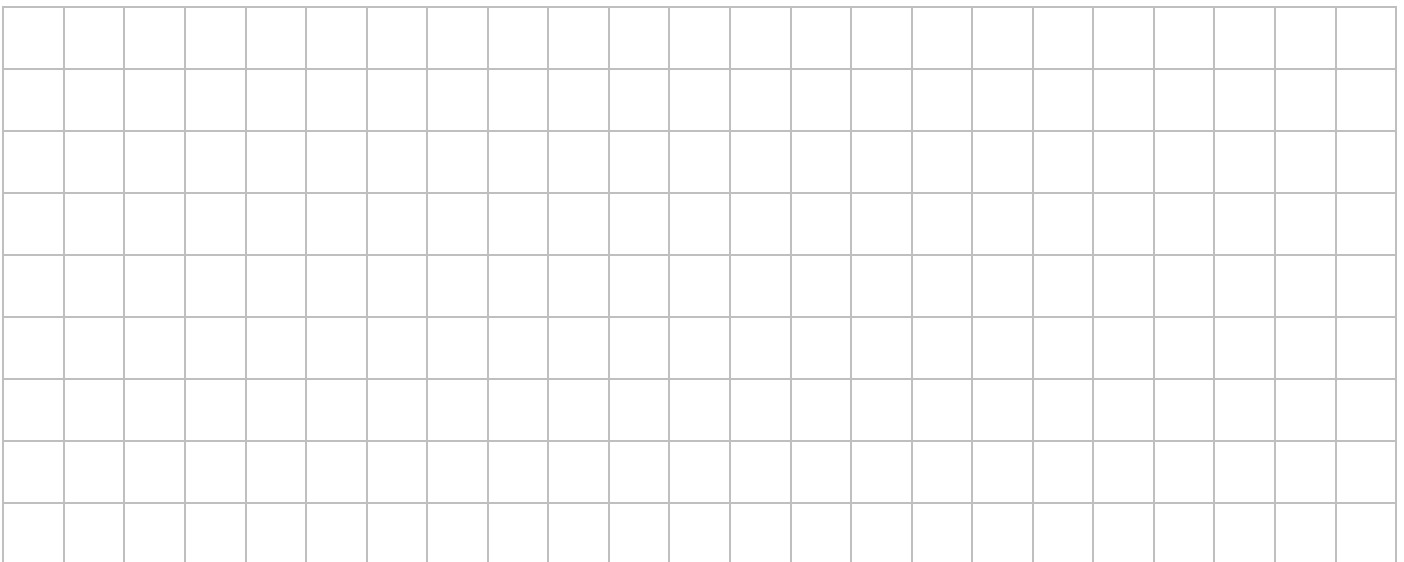
(GPS2, 2 marks)

30 Draw an example of:

i) a right angle

ii) an angle less than a right angle

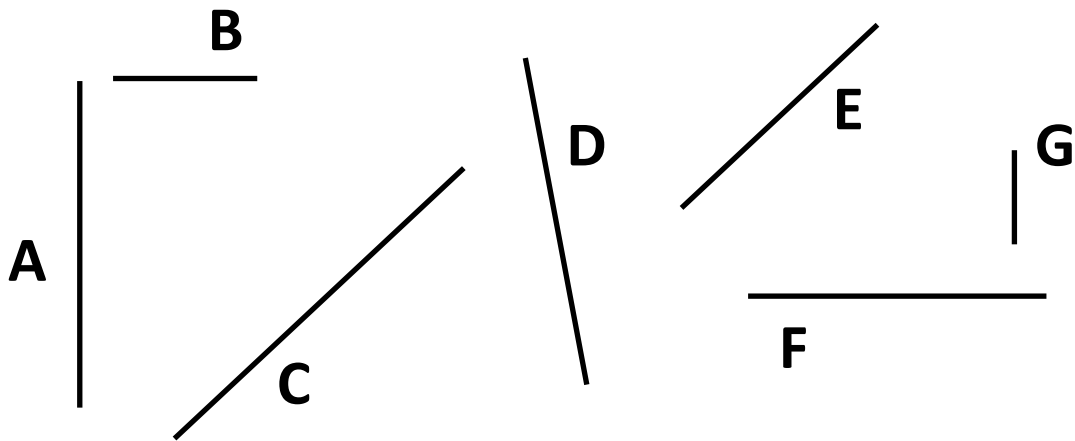
iii) an angle greater than a right angle



(GPS3, 3 marks)



31 Here are some lines



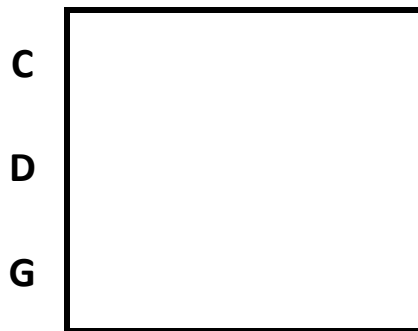
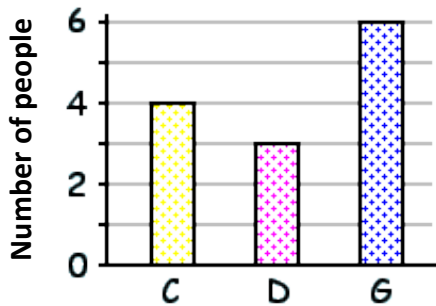
Complete the following statements about these lines:

- a) ..... and ..... are horizontal lines
- b) ..... and ..... are vertical lines
- c) There are ..... pairs of parallel lines
- d) ..... and ..... are a pair of perpendicular lines
- e) ..... and ..... are also a pair of perpendicular lines

(GPS4, 5 marks)



32 Construct a pictogram for this data.



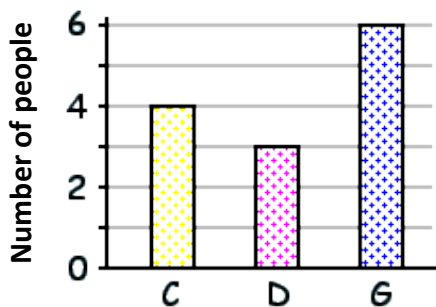
KEY:

..... = 2 people

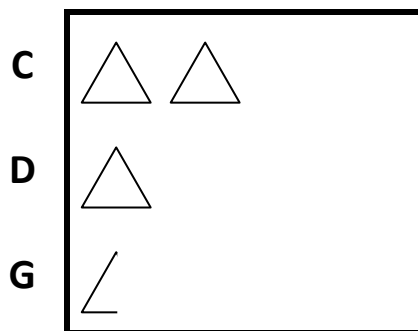
(S1, 3 marks)

33 The bar chart shows the number of pupils in Class A who like cats (C), dogs (D) and goldfish (G).

The pictogram shows the number of pupils in Class B who like cats (C), dogs (D) and goldfish (G).



Class A



Class B

KEY:

△ = 10 people

a) How many more pupils in Class A like goldfish than in Class B?

.....

b) How many more pupils in Class B like dogs than in Class A?

.....

(S2, 4 marks)



<b>Number and Place Value</b>	<b>+ and -</b>	<b>× and ÷</b>	<b>Fractions, Decimals &amp; %s</b>	<b>Measurement</b>	<b>Geometry: Properties of Shapes</b>	<b>Statistics</b>
<b>NUMBER</b>						

### NOT GOT IT YET?

Key topics I need to work on:

