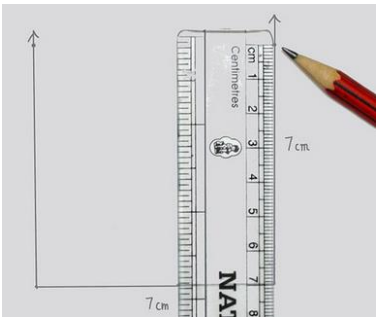
Mathematical Literacy Assessment – Question Paper

Part 1 – Verbs - Fill in the gaps.

Each verb is only used once.

divide	add	expand	continue	order	work out
multiply	subtract	draw	explain	factorise	compare

Q1: _____ 5 and 6 **A1**: 5 + 6 = 11	**Q2**: _____ these numbers from smallest to largest: 4, 7, 2, 6 and 5 **A2**: 2, 4, 5, 6, 7
Q3: _____ 5 by 6 **A3**: 5 x 6 = 30	**Q4**: _____ 20 by 4 **A4**: 20 ÷ 4 = 5
Q5: _____ the sequence: 6, 8, 10….. **A5**: 6, 8, 10, 12, 14, 16…	**Q6**: _____ the number of boys to the number of girls. **A6**: There are more boys than girls.
Q7: _____ 5 from 11 **A7**: 11 – 5 = 6	**Q8:** _____ a square **A8**: 
Q9: _____ 5 + 6 **A9**: 5 + 6 = 11	**Q10**: _____ why Mr Eyre is correct. **A10:** Mr Eyre is correct because….

convert	measure	divide	increase	estimate	simplify
plot	round	construct	decrease	multiply	calculate

Q11: _____ 323 to the nearest 100.

A11: 300.

Q12: _____ 240 by 23

A12: 240 + 23 = 263

Q13: _____ $\frac{4}{8}$

A13: $\frac{4}{8} = \frac{1}{2}$

Q14: _____ 123 + 489

A14: 123 + 489 ≈ 100 + 500 = 600

Q15: _____ 435 x 10

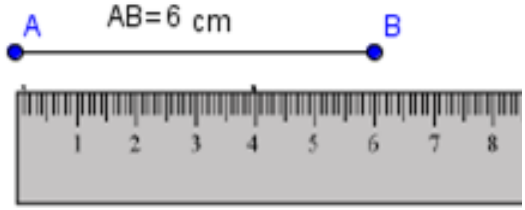
A15: 435 x 10 = 4350

Q16: _____ 520 by 15

A16: 520 – 15 = 505

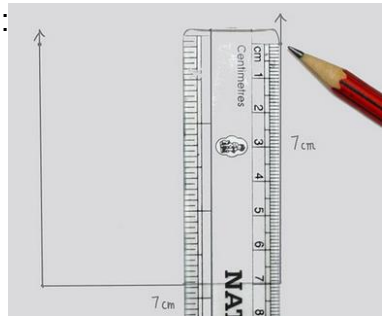
Q17: _____ the line

A17:



Q18: _____ a square of side length 7cm

A18:

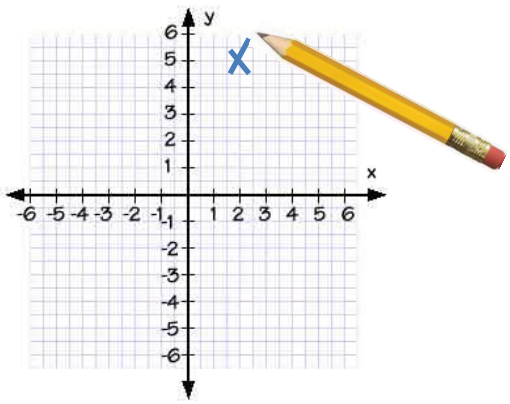


Q19: _____ $\frac{1}{2}$ to a decimal.

A19: $\frac{1}{2}$ = 0.5

Q20: _____ the point (2, 5)

A20:



enlarge	reflect	evaluate	express	factorise	extrapolate
rotate	translate	substitute	solve	expand	sketch

Q21: _____ 6a + 12

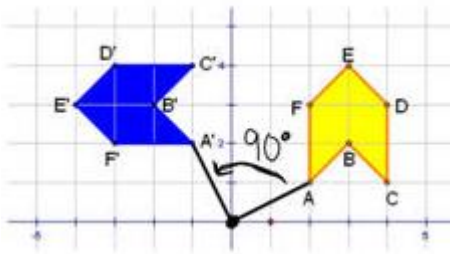
A21: 6a + 12 = 6(a + 2)

Q22: _____ 2a = 12

A22: a = 6

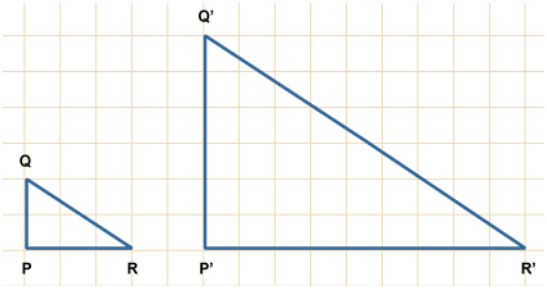
Q23: _____ the yellow shape 90^{o} anticlockwise about (0, 0)

A23:



Q24: _____ PQR by scale factor 3.

A24:



Q25: _____ 5(a + 3)

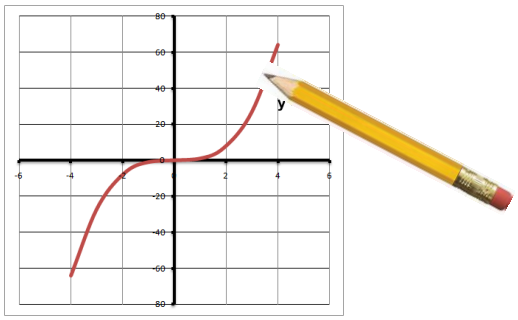
A25: 5(a + 3) = 5a + 15

Q26: _____ 20 as two numbers added together.

A26: 20 = 12 + 8

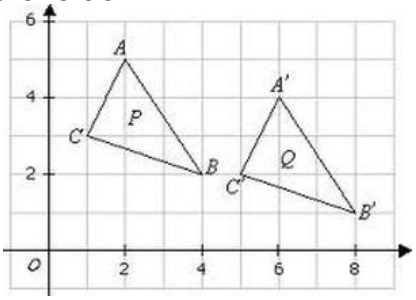
Q27: _____ the graph of $y = x^3$

A27:



Q28: _____ ABC four squares to the right and one down.

A28:

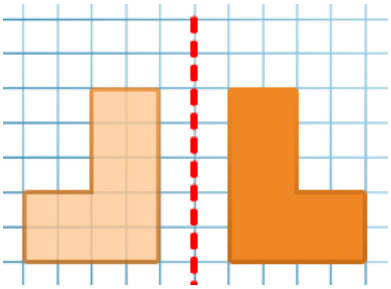


Q29: _____ 2^3

A29: 2^3 = 2 x 2 x 2 = 8

Q30: _____ the shape in the mirror line

A30:



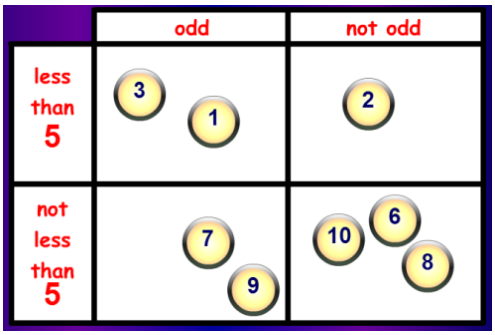
substitute	interpret	prove	classify	represent
find	predict	generalise	factorise	rationalise

Q31: _____ a = 3 into 2a + 5

A31: 2(3) + 5 = 6 + 5 = **<u>11</u>**

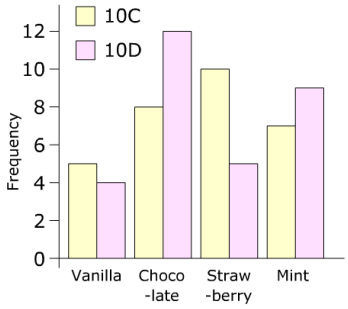
Q32: _____ the data into groups using a Carroll diagram.

A32:



Q33: _____ the information in a bar chart

A33:



Q34: _____ that n + (n+1) is always odd.

A34: n + (n + 1) = 2n + 1

2n is a multiple of 2, so it is always even.

Therefore 2n + 1 must be odd.

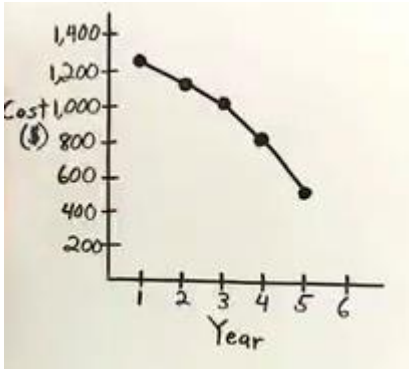
Q35: _____ the information on the graph for Q33.

A35: The most popular milkshake in 10D was chocolate.

Q36: _____ the square root of 100

A36: √100 = **<u>10</u>**

Q37: _____ the cost of the gadget in Year 6



A37: The cost of the gadget in Year 6 will be around $200.

Mathematical Literacy Assessment – Question Paper

Part 2 – Nouns

Match the questions on the left with the answers on the right: (Calculations)

1) Find the **product** of 6 and 7 ● ● a) 6 **+** 7 = 13

2) What's the **difference** between 6 and 7? ● ● b) **6**: 1, 2, 3, 6 **7**: 1, 7

3) What are the **factors** of 6 and 7? ● ● c) 6 **x** 7 = 42

4) Find the **sum** of 6 and 7 ● ● d) 7 **–** 6 = 1

5) What are the **multiples** of 6 and 7? ● ● e) 6: 6, 12, 18, 24…..
7: 7, 14, 21, 28….

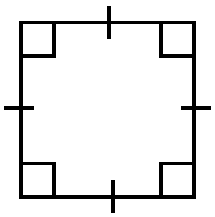
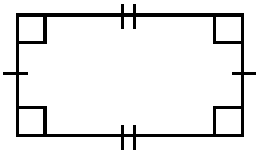
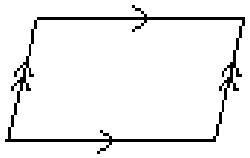
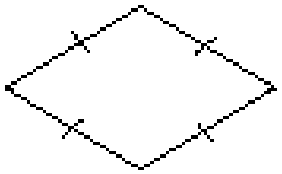
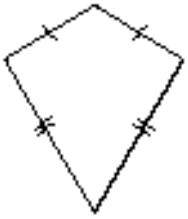
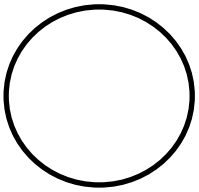
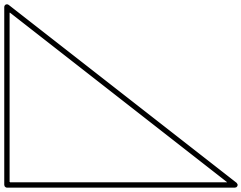
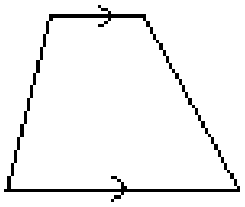
6. (Calculations)

decimal fraction	percentage multiple	mixed number negative number	improper fraction power	factor integer
-23 a)_____	3^4 b)_____	$\frac{3}{4}$ c)_____	**12%** d)_____	
$\frac{7}{3}$ e)_____	**0.3** f)_____	$5\frac{2}{3}$ g)_____	**5** h)_____	

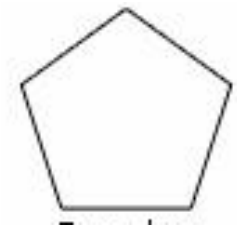
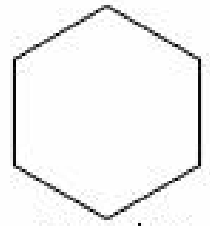
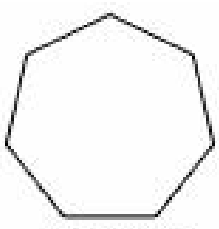
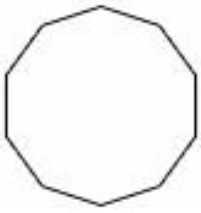
7. (Types of number)

even numbers **imaginary** numbers **triangle** numbers	**odd** numbers **powers** of **10** **complex** numbers	**square** numbers **prime** numbers **surds**	**cube** numbers **standard form** **irrational** numbers
1, 4, 9, 16… a)_____	**10, 100, 1000…** b)_____	**2, 4, 6, 8…** c)_____	**1, 8, 27, 64…** d)_____
1, 3, 5, 7… e)_____	**1, 3, 6, 10…** f)_____	**2, 3, 5, 7, 11…** g)_____	**1.23×10^{-4}** h)_____

8. (2D shapes)

trapezium rectangle	parallelogram kite	rhombus arrow head	square delta	triangle circle
				
a)_____	b)_____	c)_____	d)_____	
				
e) _____	f)_____	g)_____	h)_____	

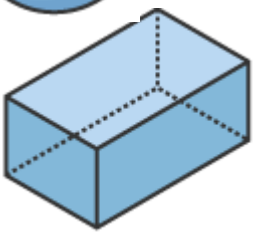
9. (2D shapes)

nonagon hexagon	octagon decagon	dodecagon heptagon	equilateral triangle isosceles triangle	scalene triangle pentagon
				
a)_____	b)_____	c)_____	d)_____	
				
e)_____	f)_____	g)_____	h)_____	

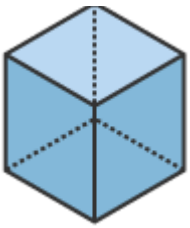
Match the words to the shapes (3D shapes)

10) cube ● ● a)

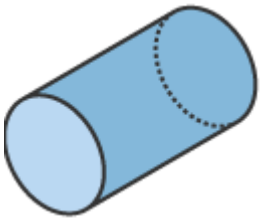
11) cylinder ● ● b)



12) cuboid ● ● c)

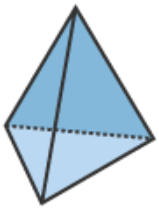


`13) sphere ● ● d)

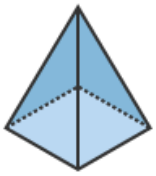


14) square-based pyramid ● ● e)

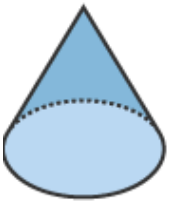
15) hemi-sphere ● ● f)



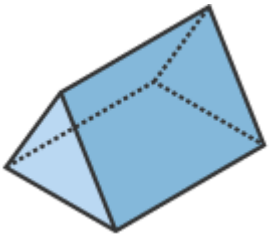
16) tetrahedron ● ● g)



17) triangular prism ● ● h)

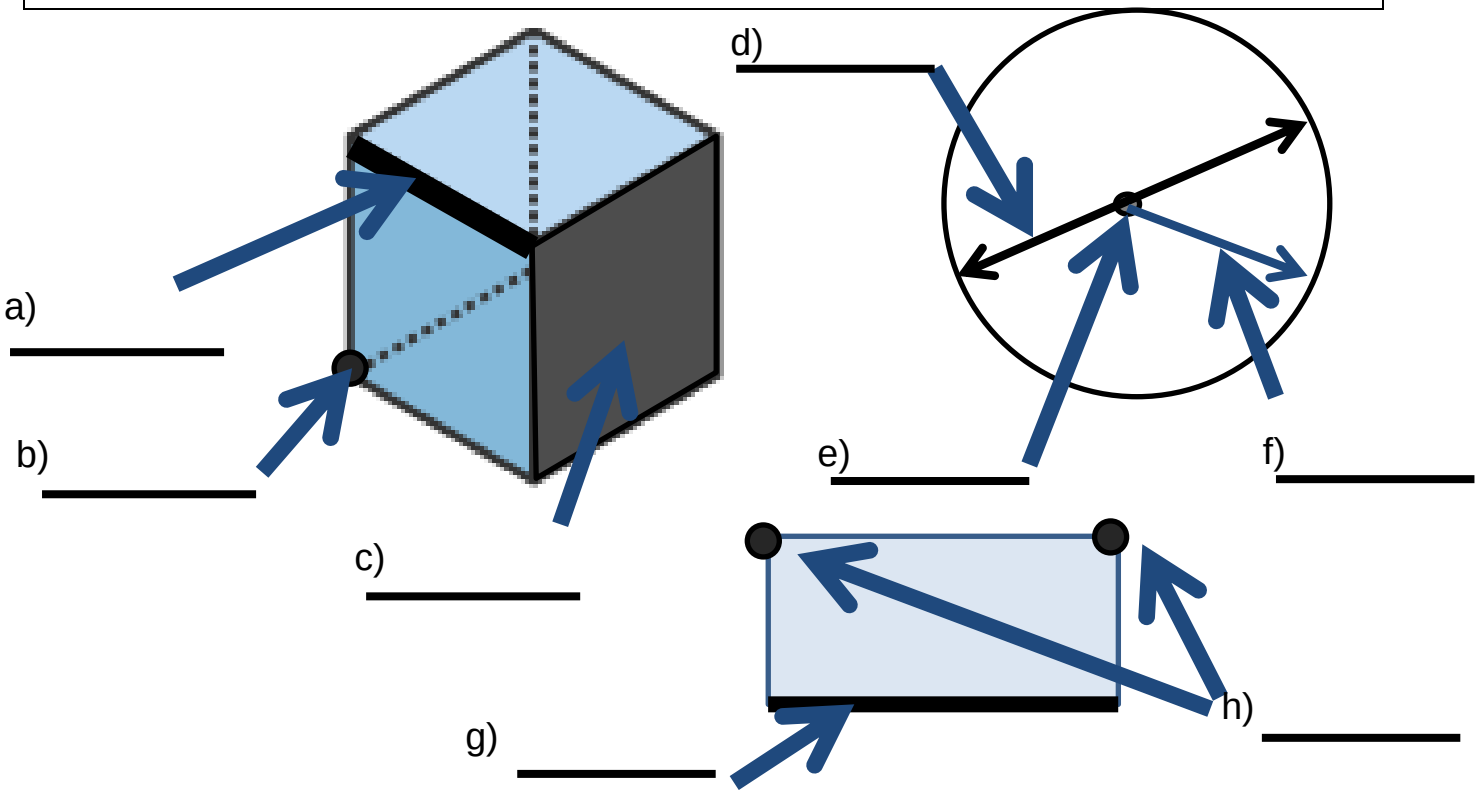


18) cone ● ● i)



19. (Properties of shapes)

face	circumference	edge	vertex	side
centre	elevation	radius	diameter	vertices



20. (Calculations)

method **experiment**	**reasons** **hypothesis**	**results** **problem**	**property** **digits**	**evidence** **answer**
The a)_____ to 3 + 4 is 7.	The number 235 has three b)_____.	One c)_____ of a square is that is has 4 sides.		A d)_____ to add numbers is to use a number line
You can show the e)_____ of a survey in a bar chart.	If two cakes cost 40p, how much does one cake cost? – This is a f)_____	g)_____ and h) _____ show how you got your answers.		

21. (Calculations)

tenth decimal	thousandth numerator	denominator percentage	brackets sign	hundredth ratio
$\frac{1}{10}$ a)_____	- 4 or + 5 b)_____	3 : 5 c)_____	$\frac{1}{1000}$ d)_____	
( ) e)_____	$\frac{3}{4}$ f)_____	$\frac{1}{100}$ g)_____	$\frac{3}{4}$ h)_____	

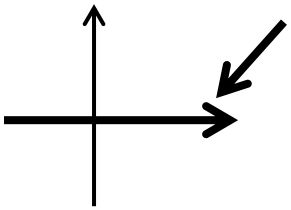
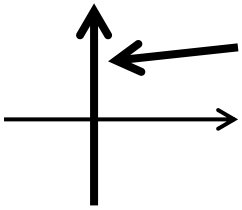
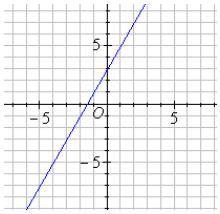
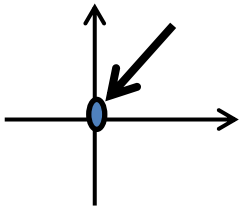
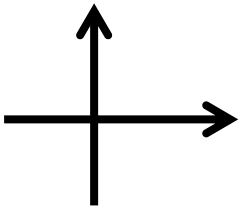
22. (Money)

change discount	currency exchange rate	sale price loss	pounds pence	profit amount
£3 Three a)_____	A b)_____ is how much money is taken off the price.	A coat usually costs £20. You take £5 off. It now costs £15 – this is the c)_____	Pounds (£) , Dollars ($) and Euros (€) are examples of d)_____	
$1 = £0.75 e)_____	3p Three f)_____	If I pay for a 20p chocolate bar with 50p, I will get 30p g)_____	An h)_____ is how much there is.	

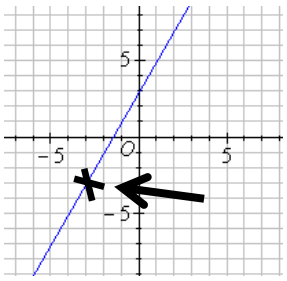
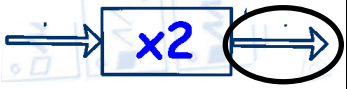
23. (Algebra)

equation expansion expression	solution function constant	identity term variable	unknown function machine program
2a + 3 = 11 a)_____	**2a + 3b + 7** b)_____	 c)_____	**? + 3 = 11** d)_____
a = 4 e)_____	**2a + 3b + 7** f)_____	**f(a) = 2a** This g)_____ multiplies “a” by 2	**Something that changes** h)_____

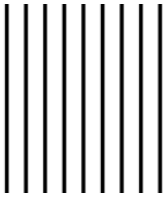
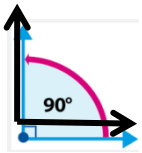
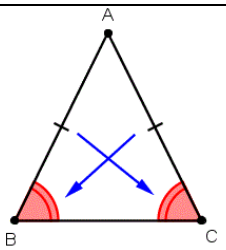
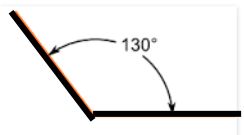
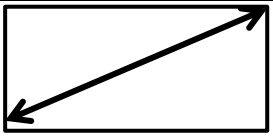
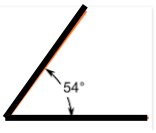
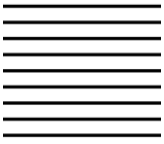
24. (Graphs)

axes coordinates direction	graph first axis origin	x-axis y-axis even point	x-coordinate y-coordinate low point
(3, 4) a)_____	 b)_____ _____	**(3, 4)** c)_____	(3, 4) d)_____
 e)_____	 f)_____	 g)_____	 h)_____

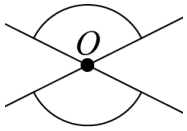
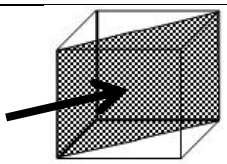
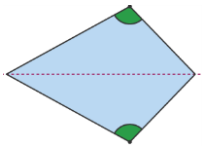
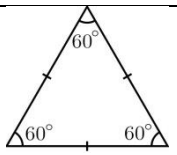
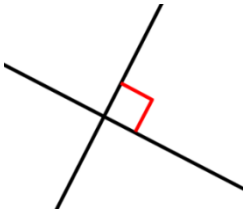
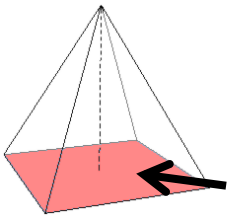
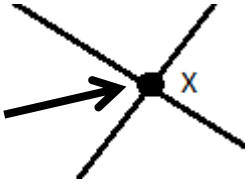
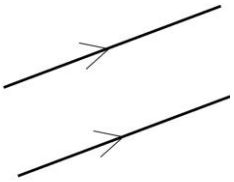
25. (Algebra)

n^{th} term sequence equation	rule control relationship	driver input output	point symbols result
b = a + 3 **As "a" gets bigger so does "b"** a)_____	**2, 5, 8, 11, 14…** b)_____	**2, 5, 8, 11, 14…** **3n - 1** c)_____	**2, 5, 8, 11, 14…** **Add 3** d)_____
 e)_____	 f)_____	 g)_____	**= > < - x ÷** **√ π ∞ ± £** h)_____

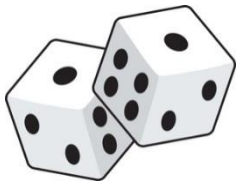
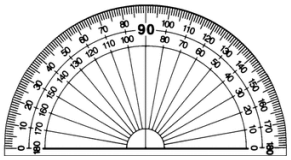
26. (Angles and geometry)

right angle acute angle	obtuse angle reflex angle	base angles cross line	horizontal polygonal	vertical diagonal
 a)_____	 b)_____	 c)_____	 d)_____	
 e)_____	 f)_____	 g)_____	 h)_____	

27. (Geometry)

parallel **perpendicular** **polygonal**	**plane** **cross point** **diagram**	**intersection** **vertically opposite angles**	**base** **vertex** **opposite angles**
 a)_____	 b)_____	 c)_____	 d)_____ of a triangle
 e)_____ lines	 f)_____ of a pyramid	 g)_____ of two lines	 h)_____ lines

28. (Mathematical equipment)

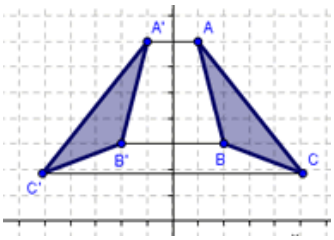
calculator **clinometer** **protractor**	**tape measure** **ruler** **dice**	**compass** **stop watch** **set square**	**barometer** **scales** **thermometer**
 a)_____	 b)_____	 Pair of c)_____es	 d)_____
 e)_____	 f)_____	 g)_____	 h)_____

29. (Transformations)

rotation	**reflection**	**enlargement**	**object**
mirror	**turn**	**translation**	**subject**
flip	**transformations**	**cross section**	**image**
centre of rotation	**quadrants**	**lines of symmetry**	**move**

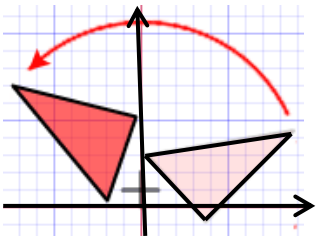
The four diagrams show different

a) _____



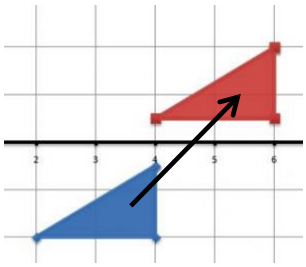
This shows a

b)_____



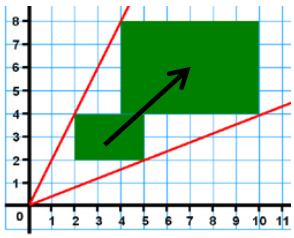
This shows a

c)_____



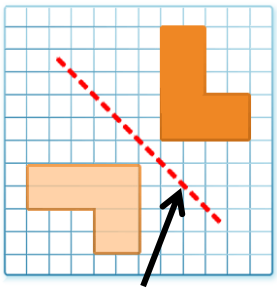
This shows a

d)_____



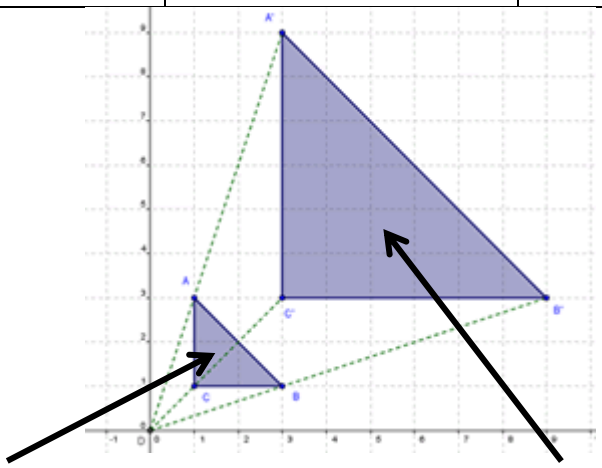
This shows a

e)_____



f)_____

line

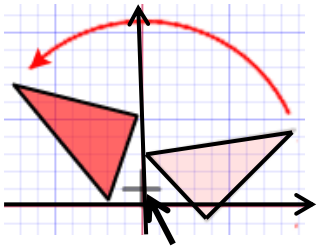


g)_____

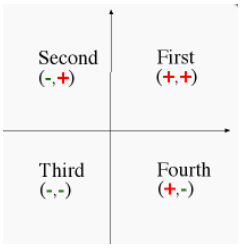
(the shape at the start)

h)_____

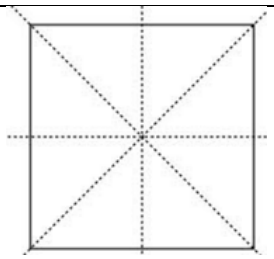
(the shape at the end)



i)_____

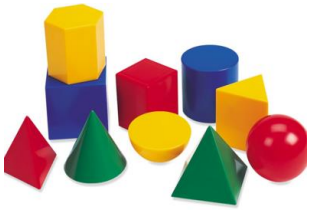
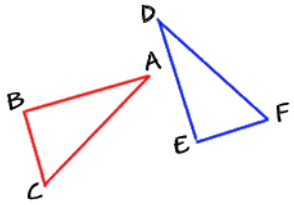
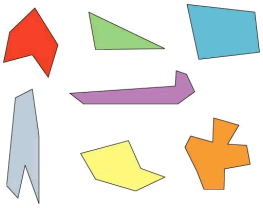
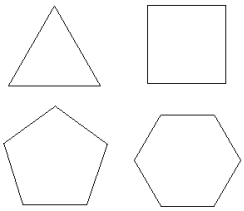
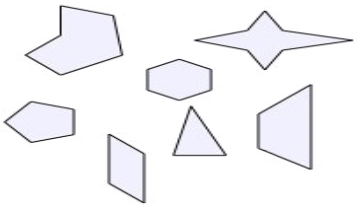
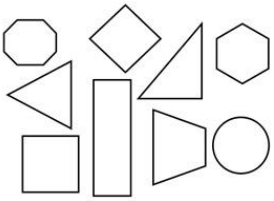


j) _____

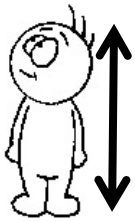
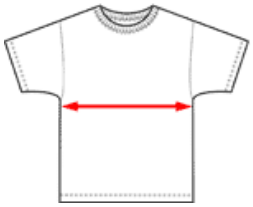
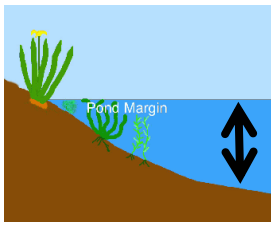
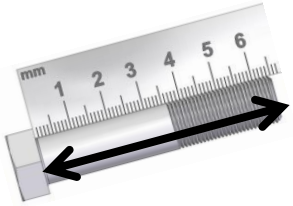
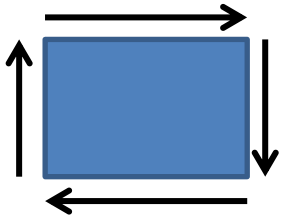
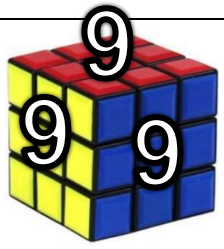


k) _____

30. (Types of shape)

irregular shapes translucent shapes congruent shapes	incomplete shapes 3D shapes polygons	2D shapes random shapes regular shapes
 a) _____	 b)_____ (The same size and shape)	 c)_____ (Sides are different lengths)
 d) _____ (Sides are the same length)	 e) _____ (These have straight sides)	 f) _____ (Flat shapes – e.g. a circle)

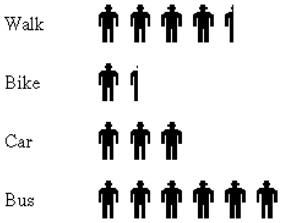
31. (Measurements)

perimeter weight	volume area	depth surface area	length distances	height width
 a)_____ _____	 b)_____	 c)_____	 d)_____ = 9	
 e)_____	 f)_____	 g)_____	 h)_____ = 9 + 9 + 9 + 9 + 9 + 9 = 54	

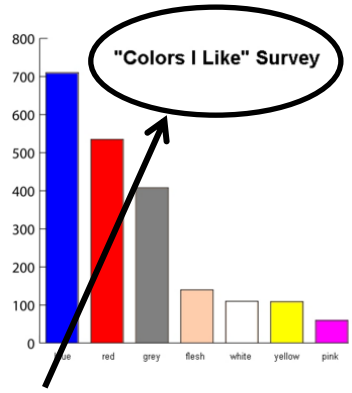
32. (Handling data)

bar chart	**pie chart**	**data collection sheet**	**tally**	**histogram**
bar line graph	**polygon**	**questionnaire**	**Venn diagram**	**line graph**
title	**Carroll diagram**	**pictogram**	**frequency**	**key**
label	**table**	**class interval**	**statistics**	**tick chart**

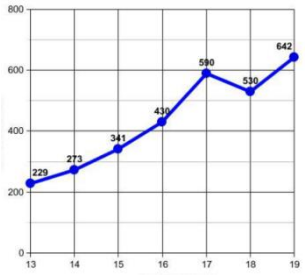
a)_____



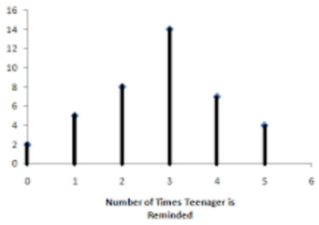
b)_____



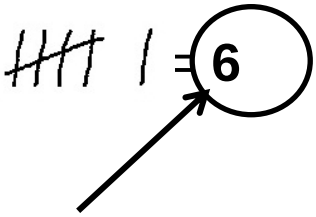
c)_____



d)_____



e)_____



f)_____

g)_____

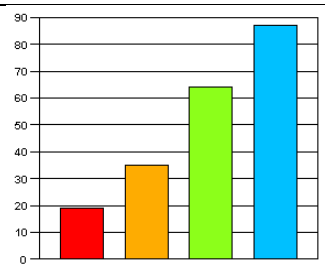
h)_____

How old are you?

☐ ☐ ☐

Under 18 18-30 Over 30

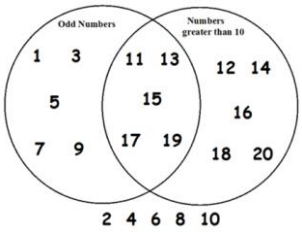
i)_____



j)_____

Method of Travel	*Tally*	*Frequency*
Walk		
Bike		
Car		
Bus		
	TOTAL	

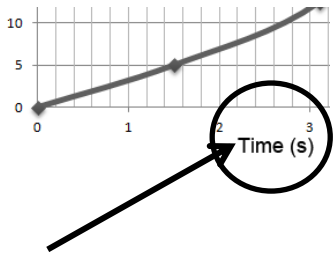
k)_____



l)_____

Mass	Extension
0 g	0 mm
100	5
200	9
300	15
400	20
500	24
600	30

m)_____



n)_____

"52% of the students passed the Maths test but only 48% passed the English test."

o)_____

Rainfall (in mm)	No. of days
1-4	4
5-8	6
9-12	10

p)_____

33. (Averages)

favourite	median	mode	range	modal group
mean	mode	average	interval	highest

2, 4, 5, 6, 8, 8,12

There are 3 different types of a) _____.

The b) _____ is the **most common** number. It is 8.

The c) _____ is the **middle** number once the numbers are in order. It is 6.

The d) _____ is the total shared back out equally.

It is (1 + 2 + 5 + 6 + 8 + 8 + 12) ÷ 7 = 6

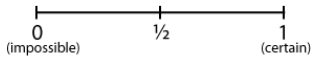
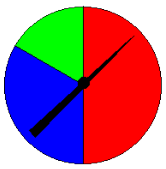
The e) _____ is **the largest number take away the smallest one.** It is12 – 2 = 10.

If the data is in groups, each group is called an f)_____ .

The group with the most numbers in is the g) _____.

34. (Probability)

experiment	number line	outcomes	note
probability scale	probability	danger zone	doubt
turner	spinner	risk	coin

The chance of something happening. a)_____	 b)_____	 c)_____	 d)_____
The chance of something going wrong. e)_____	When you are not sure about something. f)_____	There are 6 possible g)_____ when you roll a normal dice: 1, 2, 3, 4, 5 or 6.	What you do to find something out or to check an idea. h)_____

Mathematical Literacy Assessment – Question Paper

Part 3 – Adjectives

1. (calculations)

between **double** **approximately**	**equal to** **half** **greater than**	**less than** **nearest** **furthest**	**negative** **positive** **divisible**
8 is a)_____ 5	6 is b)_____ 4 and 10	3, 6, 9 and 12 are all c)_____ by 3	5 is d)_____ 8
In the list of numbers, 1, 4, 6, 9 and 16. 9 is the e)_____ number to 10.	3, 7, 1, 12.5 and 20 are all f)_____ numbers.	1 + 1 is g)_____ 2.	2.1 + 2.1 is h)_____ 2 + 2 = 4

2. (calculations)

consecutive **equivalent** **half**	**triple** **exactly** **nearly**	**squared** **stuck** **finite**	**generous** **infinite** **double**
4 a)_____ means 4 x 4 (=16)	2, 3, 4, 5 are b)_____ numbers.	8 is c)_____ 4	$\frac{2}{4}$ is d)_____ to $\frac{1}{2}$ $(\frac{2}{4} = \frac{1}{2})$
6 is e)_____ 6	99 is f)_____ 100	If something is limited it is g)_____	If something is unlimited it is h)_____

3. (Probability)

certain **uncertain** **disastrous** **probable** **poor chance**	**fair** **hypocritical** **unfair** **random** **even chance**	**likely** **annoying** **unlikely** **no chance** **fifty-fifty**	**positive** **possible** **impossible** **good chance** **equally likely**
"Your teacher will turn into a dragon." It **cannot happen!** It is: a)_____ OR it has b)_____	"You will be here in one second time." It **will happen for sure!** It is: c)_____	"You will get a Tail when you flip a coin." It has **equal chance.** It is: d)_____ OR that it is e)_____ or that it is f)_____	"You will win the lottery!" It **probably won't happen**… It is: g)_____ OR It has h)_____
"You will have a Maths lesson in the next month" It **probably will happen.** It is i)_____ OR that it has j)_____ OR that it is k)_____	"It will snow next year in Manchester." We don't know if it will or won't happen. It is: l) _____. There is a chance it will happen. It is m)_____	"Your name being picked out of a hat." Each person in a group has an equal chance being picked – the chance you being picked is: n)_____	If a dice is o)_____ then there is an equal chance of it landing on each number. If a dice is p)_____ then it is more likely to land on one number than another.