

Dulwich College

ENTRANCE AND SCHOLARSHIP EXAMINATION AT 11+

SPECIMEN PAPER

MATHEMATICS ONE HOUR

WORK OUT THE FOLLOWING (SHOW YOUR WORKING)

1.	254 + 63 + 108		
		Answer:	[2]
2.	327 – 119		
		Answer:	[2]
3.	57 × 28		
		Answer:	[2]
4.	62.1÷9		
		Answer:	[2]
5	$\frac{3}{4}$ of 840	Allswel.	[2]
٦.	4 01 040		

[2]

Answer: _

	2.3 2.32 2.03 2.302
	Answer: [2]
7.	Tom uses 750g of sugar from a 2.5kg packet. How many kilograms of sugar are left?
	Answer: kg [2]
8.a)	Given that Tom eats $\frac{3}{5}$ of a cake and his friend, Jerry, eats $\frac{1}{3}$ of the cake, what fraction of the cake is left?
	Answer: [3]
b)	Given that Tom's piece of cake weighed 150 grams, what was the weight of the whole cake?
	A. a. a. a. a. a. a. [2]
	Answer: g [3]

Write the following in order of size, starting with the smallest:

6.

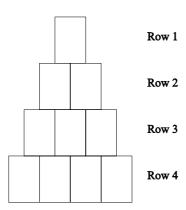
	$1^2 + 3 = 4$
	$2^2 + 5 = 9$
	$3^2 + 7 = 16$
a)	Fill in the next two lines of the pattern,
	+ =
	+ =
b)	Complete the following line which comes later in the pattern.
	+ = 121
10.	Write the following events in order, with the most probable (i.e. most likely) first and the least probable (i.e. least likely) last. Give your answer as a sequence of letters, e.g. BACED.
A: B: C: D: E:	Being born on a Wednesday; A meteorite falls on the College tomorrow; Rolling a 4 with a fair die; Obtaining a head when a fair coin is tossed; Obtaining an even number when two odd numbers are multiplied together.
	Answer: [3]
11.a)	Rosa takes 37 minutes to travel to work each morning. She leaves home at 8.15 a.m. What time does she arrive at work?
b)	Answer:[1] The journey home in the evening takes the same time. She arrives home at 6.23p.m. At what time did she leave work?
	Answer: [2]

9.

Look at the number pattern below:

Curtain material costs £10.20 per metre.	
How much will it cost to buy 10 metres?	
Answer: £	[1]
Mr Rutter buys a length of material costing £25.50. How many metres does he buy?	
A mayrom.	m [2]
Answer:	m [3]
The distance from Calais to Paris is 320 km. 5 miles is approximately 8 kilometres.	
Calculate the approximate distance in miles from Calais to Paris.	
Answer:	miles [2]
Shortcrust pastry is made using flour and fat in the ratio 2:1.	
How many grams of flour are needed to make 900 grams of short	tcrust pastry?
Answer:	grams [3]
	Answer: £ Mr Rutter buys a length of material costing £25.50. How many metres does he buy? Answer: The distance from Calais to Paris is 320 km. 5 miles is approximately 8 kilometres. Calculate the approximate distance in miles from Calais to Paris. Answer: Shortcrust pastry is made using flour and fat in the ratio 2:1. How many grams of flour are needed to make 900 grams of short.

1	_	
- 1	_	
- 1	,	



Cans are often stacked like this in a supermarket display.

a)	Find the total	number of cans	s in the first four row	S

Answer:	[2]
---------	-----

b) How many rows would be needed to display 28 cans?

Answer:	[3]

16. Three bus services stop at my bus stop. Service A departs every 3 minutes, service B every 5 minutes and service C every 8 minutes.

If all three services leave my stop at 10.00 a.m., at what time will they next leave my stop together? (Assume that all three services always run on time).

Answer: _____ [3]

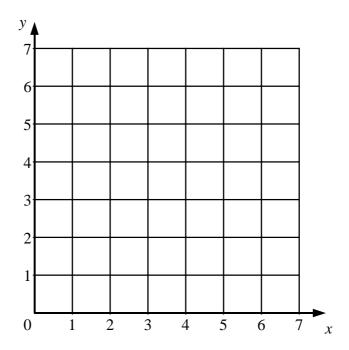
17.	A cube with sides 3 cm is made from smaller cubes of side 1cm as shown.
a)	How many small cubes are used in making the bigger cube?
b)	Answer: [2] If the bigger cube is painted blue all over, how many small cubes will have three blue faces?
c)	Answer: [2] How many small cubes share a face with 5 other small cubes?
d)	Answer:[2] How many small cubes share a face with exactly 2 other small cubes?

Answer: _

_[2]

18.	Four rectangles each of length 27 cm and width 13 cm are arranged to form the square shape shown below (the diagram is not drawn to scale).		
	Find		
a)	the perimeter of this square shape,		
	Answer: cm [2]		
b)	the area of the shaded inner square.		
	Answer: cm ² [3]		

19.



a)	On the grid above, plot and label the points $A(0,3)$, $B(2,5)$, $C($	6,3)	and
	D(2,1).		
			[4]

b) Join ABCD.

[1]

c) What name is given to this shape?

Answer: _____ [1]

d) Find the coordinates of the point of intersection of the diagonals.

Answer: _____[2]

e) Draw on any lines of symmetry.

[1]

f) Calculate the area of ABCD.

Answer: _____cm² [4]

20.	My age is a multiple of 7. Next year it will be a multiple of 5. I am more than 20 years old, but less than 80. How old am I?			
		Answer:	[3]	
21.	A piece of wire 30cm long is be rectangle is twice as long as it is wi	ent into the shape of ide, what is its area?	f a rectangle. If the	
		Answer:	cm ² [3]	

22. The graph below shows the times taken to walk around the school field by 5 pupils. 20 18 16 14 Time in minutes 12 10 8 6 4 2 0 Liam Sally Ed Peter Anna **Pupils** Find: a) the difference in minutes between the slowest and fastest times, Answer: _____ minutes [2] b) the sum, in minutes, of the individual times, Answer: _____ minutes [2] c) the average time, in minutes, of the five times. Answer: _____ minutes [3] Peter walked at 4 km/h. How far is it around the school field? d)

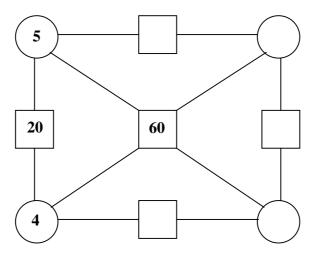
Answer: _

km [3]

23.	Two numbers are 'clotted' by multiplying them together and then writing the answer backwards.		
	For example, 6 and 7 are 'clotted' to give 24 because $6 \times 7 = 42$ and 42 written backwards is 24.		
a)	What is the result of 'clotting' 8 and 9?		
	Answer: [2]		
b)	With which number must 4 be 'clotted' with to give 42?		
	Answer: [2]		
c)	Find two whole numbers which 'clot' to give 53.		
	Answer: [3]		

24. Along any line drawn, the numbers in the two circles at the end of a line should multiply to make the number in the square between the two circles.

Fill the remaining squares and circles with numbers obeying this rule.



[3]

End of Examination