St Anselm's College
Maths Sample Paper 2

45 mins

No Calculator Allowed

1) The speed of light is 186,000 miles per second. Write the speed of light in words.

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2) The speed of light is more accurately given as 299,792,458 metres per second. Write this speed of light in words.

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3) Look at the bus timetable below.

10, 10A New Brighton - Noctorum
11 New Brighton - Arrowe Park Hospital

AVON BUSES

Mondays to Fridays		11	11	11	11	11	10	10A		10	10A		10	10A
1 **New Brighton** Kings Parade		0641	0709	0739	0809	0839	0909	0939		**09**	**39**		1509	1539
2 Wallasey Central Library		0646	0715	0745	0815	0845	0915	0945		**15**	**45**		1515	1545
3 **Liscard Village**		0650	0720	0750	0820	0850	0920	0950		**20**	**50**		1520	1550
4 Birkenhead North Merseyrail station	⇄	0656	0726	0756	0826	0856	0926	0956	then at these minutes past each hour	**26**	**56**		1526	1556
5 **Claughton Village**	🚌	0701	0731	0801	0831	0901	0931	1001		**31**	**01**		1531	1601
6 Bidston Road, Gerald Road		0706	0736	0806	0836	0906	0936	1006		**36**	**06**	until	1536	1606
7 Woodchurch Road, Holm Lane		0709	0739	0809	0839	0909	↓	1009		↓	**09**		↓	1609
8 **Arrowe Park Hospital**	H	0721	0751	0821	0851	0921	↓	1021		↓	**21**		↓	1621
9 **Upton Village** Ford Road	🚌						↓	1027		↓	**27**		↓	1627
10 Upton railway station	⇄						↓	1030		↓	**30**		↓	1630
11 **Noctorum** Westway							0941	1034		**41**	**34**		1541	1634

a) I need to catch a bus from Wallasey Central Library to arrive at Upton Village by 11:30am. Which number bus should I catch and at what time?

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b) How many minutes does the 10A's journey from New Brighton to Noctorum take?

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4) I buy 22 items which cost £7.05 each.

   a) What is the total cost?

   …….

   b) If you worked out the answer to part (a) on a calculator, what would the display show?

   …….

5) I live 3.2 km from St Anselm's College.

   a) How far is this in metres?

   …….

   b) One kilometre is five eighths of a mile. How many miles do I live from St Anselm's?

   …….

   …….

6) I start watching a film at 6:55pm and turn the television off at 9:35pm.

   a) For how long was I watching television?

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b) In total, a fifth of the time I spent watching television advertisements were being shown. What was the total time of all the advertisements?

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7) Solve the following:

a) I think of a number, divide it by 7 and subtract 3. The result is 6. What was the number I first thought of?

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b) There is a number, *x*. When I add 7 to *x* then multiply the answer by 8, the overall result is the same as just multiplying *x* by 22. What is *x*?

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8) Write the next two numbers for each of the following sequences.

a) 3 10 17 24 31 ... ...

b) 1 3 9 27 81 ... ...

c) 3 4 6 10 18 … …

d) 1 1 2 3 5 8 … …

9) Complete the spaces shown by dotted lines below.

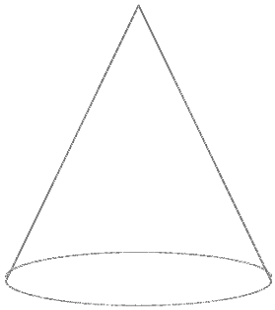
a)

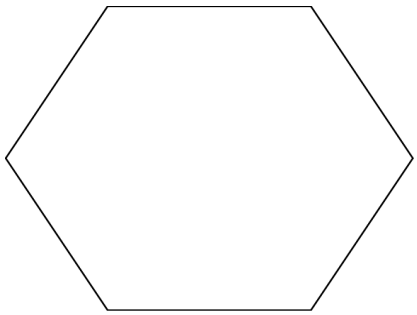
START				END
…..	Subtract 28	.....	Add 19	63

b)

START				END
17	Add.....	32	Subtract 39	……

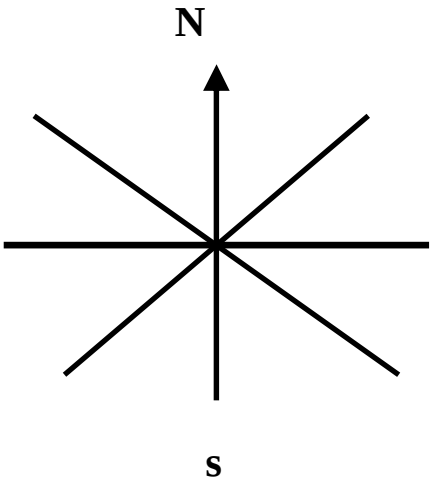
10) Write the name of the following shapes underneath them.





a) ..... b).....

11) Complete the diagram to show the 8 points of the compass.



Imagine you are facing North East. If you turn through 135^{o} clockwise, which way are you facing?

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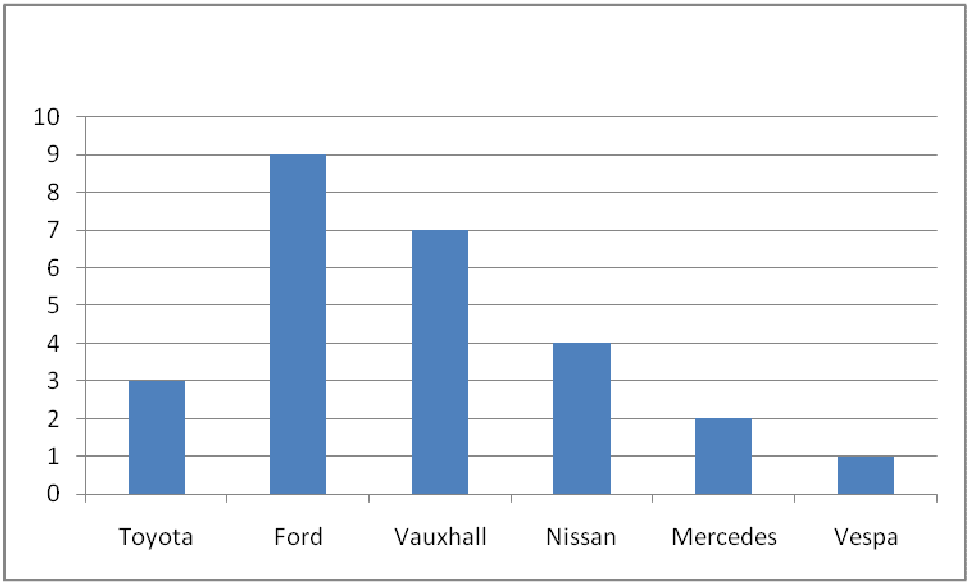
12) Look at the chart below which shows the number of vehicles of different types in the car park of St Anselm's this morning.



a) How many Vauxhalls were in the car park?

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b) How many vehicles were in the car park altogether?

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c) Which type of vehicle is the mode?

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13) Tickets for the zoo cost £9.30 for adults and £6.40 for children.

a) How much would it cost for 6 adults to go to the zoo?

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b) How much would it cost for 3 adults and 4 children?

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c) What is the maximum number of people that can go to the zoo for £30?

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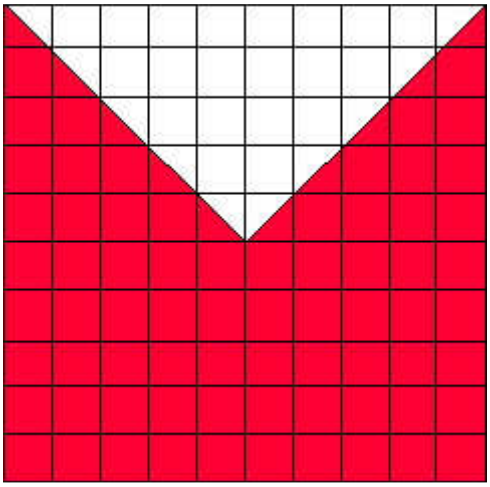
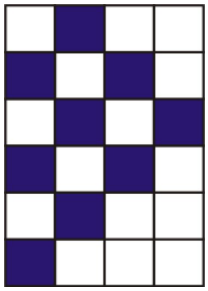
14) Look at the grids below.





a) Which grid is more than 50% shaded, left or right?

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b) What percentage of the large grid on the left is shaded?

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c) What fraction of the small grid on the right is shaded? Give your answer in its simplest form.

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15) In a tin of Roses, 8% are "Purple Ones" (hazelnut & caramel). If the tin has a total of 250 chocolates, how many are **not** Purple Ones?

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16) Round each of the following numbers to the accuracy given in brackets.

a) 29.8536 (nearest whole number)

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b) 170490 (nearest thousand)

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c) 45.1925487 (nearest tenth)

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17) Write the following numbers in order of size, starting with the smallest.

0.56 0.5 0.051 0.507 0.308

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18) If two fair dice are rolled and the two scores added, which of the following outcomes is **most** likely? Circle your answer.

a) A score of 7

b) A score of more than 10

c) A score that is an even number.

d) A score of 1.

19) I have a bag containing red, blue and white counters. A counter is chosen at random from the bag. There are 32 white counters in the bag and the probability of choosing a white counter is ¼. The bag contains 14 red counters. How many blue counters are there in the bag?

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20) Which of the following distances is the most likely height of a man? Circle your answer.

a) 120 cm

b) 150 mm

c) 1.8 m

d) 112 inches

21) A calculator normally costs £3.80. It is offered in a sale at 25% off. What is the sale price?

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22) Look at the list of numbers below.

6 12 15 49 52 53 169

a) Which of the numbers have an **odd** number of factors?

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b) Give another example of a number with an odd number of factors.

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c) These numbers have a special name. What is it?

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d) Which of the numbers is a prime number?

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23) Number A = 7 × Number B and Number B = 3 × Number C

a) What fraction of Number A is Number B?

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b) How many times bigger than Number C is Number A?

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c) What fraction of Number B is Number C?

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d) Give three possible values of the numbers.

A = B = C =

24) In November 2006 Becky is two and a half times Anna's age and Mary is twice Anna's age.

In November 2009 Anna is half of Becky's age. Mary is six years older than Anna.

How old are the three girls in November 2009?

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