The Peterborough School

ENTRANCE EXAMINATION FOR YEAR 7 ENTRY

SAMPLE PAPER

MATHEMATICS

50 MINUTES

Name: .....

You may NOT use a calculator.

Write your answers in the spaces provided.

If you cannot do a question, go on to the next one.

If you finish early, go back and check your work.

Show any working out in the spaces provided on the sheets.

Section A

1. Write down the answers to the following:

(a) 41 + 7 Answer:

(b) 59 – 23 Answer:

(c) 5 x 7 Answer:

(d) 24 ÷ 8 Answer:

(e) $\frac{1}{2}$ of 7 Answer:

2. Calculate the answers to the following. Remember to show your working.

(a) 462 + 391 Answer:

(b) 700 – 348 Answer:

(c) 37 x 6 Answer:

(d) 1638 ÷ 7 Answer:

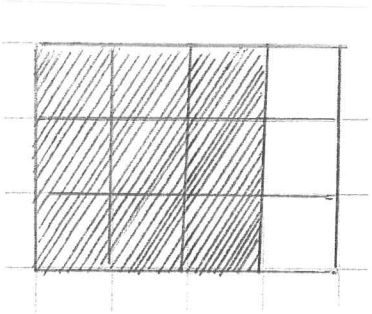
3. Pair up the equivalent fractions and write down the odd one out.

$\frac{1}{2}$ $\frac{2}{3}$ $\frac{3}{5}$ $\frac{9}{18}$ $\frac{10}{15}$

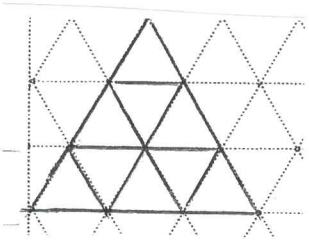
Answer: and ; and

Odd one out

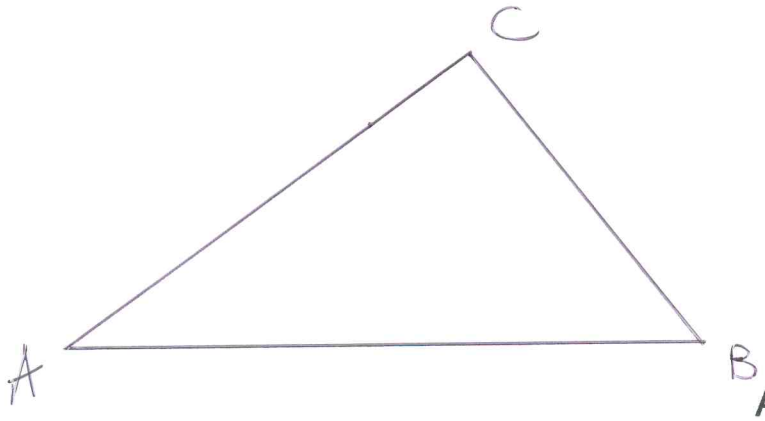
4. (a) What fraction of this shape is shaded?



(b) Shade $\frac{2}{3}$ of this shape.



5. In the triangle below measure the side AB and the angle A



Answer: AB = cm

Angle A = °

6. Calculate the answers to the following. Remember to show your working.

(a) 9.83 + 4.6 Answer:

(b) 15.4 - 2.21 Answer:

(c) 7.3 x 4 Answer:

(d) 4.68 ÷ 6 Answer:

7. Calculate the answers to the following: Remember to show your working.

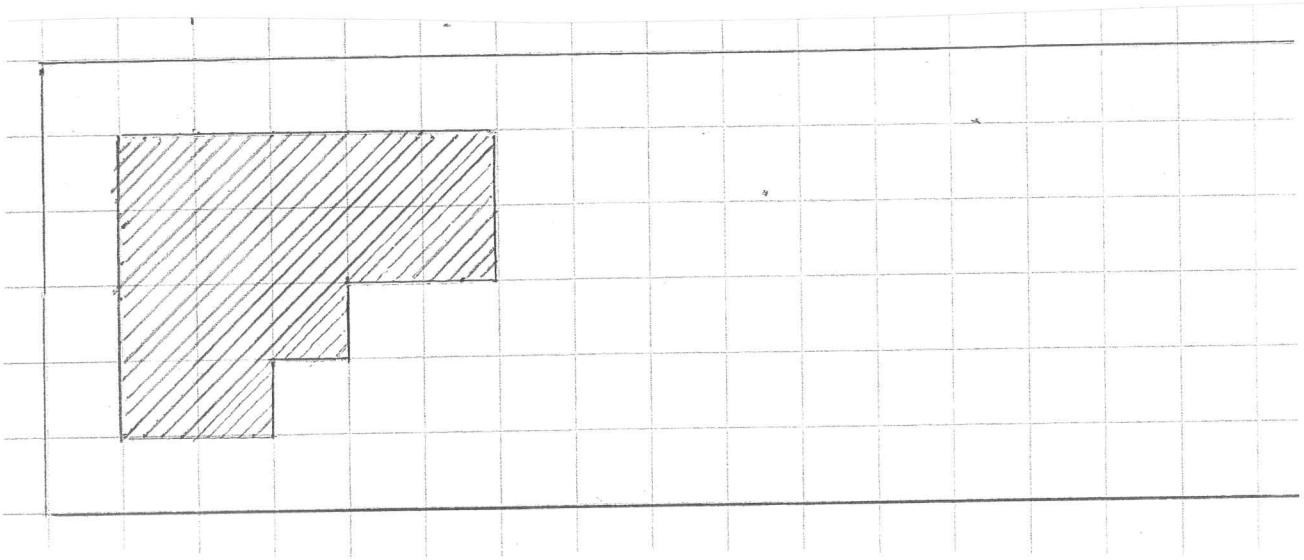
(a) 68 x 24 Answer:

(b) 987 ÷ 21 Answer:

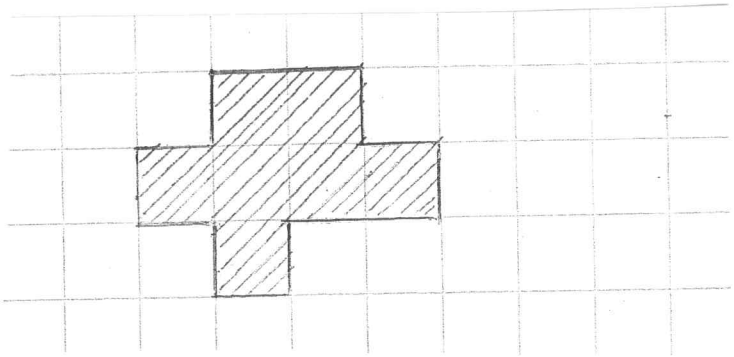
8. (a) Find the area of the shape shaded on the grid.

Answer: cm^2

(b)Draw a rectangle on the grid with the same area as the shape



9. (a) Add ONE square to the shape on the grid so that it has 2 lines of symmetry.
(b)Draw in the lines of symmetry.



10. Here is a formula for working out the number of points teams get in a quiz.

Number of points = 5 x number of correct answers – 2 x number of wrong answers.

The blonde bombshells got 8 correct and 2 wrong. How many points did they get?

Answer:

11. The table shows some information about 7 employees of Wright's Engineering Company.

Name	Job	Age
Alice	Receptionist	29
Edward	Engineer	37
Huw	Engineer	42
Michael	Salesman	31
Reema	Secretary	29
Sue	Cleaner	46
Tom	Manager	52

a) Who was the oldest employee? Answer:

b) Which two employees had the same job? Answer:

c) Who was 9 years older than Edward? Answer:

d) How many employees were older than the salesman?

Answer:

12. Work out the answers to

(a) 4.57 x 10 Answer:

(b) 84 ÷ 100 Answer:

(c) 371 x 20 Answer:

Section B

13. There are 45 teachers at The Peterford School. $\frac{4}{9}$ of them were given socks for Christmas..

(a)How many were given socks? Answer:

20% of those who were given socks also received a tie.

(b)How many were given socks and a tie? Answer:

14. The pictogram shows the amount of money 5 churches gave to a local charity.

St Hilda's 💰 💰 💰 💰 💰 💰

St Alban's 💰 💰 💰 💰 💰 💰 💰 💰

St Cuthbert's

St Helen's 💰 💰

St Dunstan's 💰 💰 💰 💰 💰 💰 = £20

a) How much did St Dunstan's give? Answer:

b) St Cuthbert's gave £50. Show this on the pictogram

c) What was the difference between the largest amount and the smallest? Answer:

d) What was the total amount given? Answer:

15. Aled had 67 marbles when he went to school. He gave 19 to his best friend Owen. He did a swap with Jess giving her 5 coloured ones in exchange for 9 plain ones. Then he played marbles with Meg and won 27 marbles and played with Ben and lost 34 marbles. How many marbles did he have when he got home?

Answer:

16. This table shows the tram fares from Merton to three towns.

	1st class	1st class	2nd class	2nd class
	adult	child	adult	Child
Ashbridge	£7.20	£4.70	£4.80	£3.10
Greenborough	£9.10	£6.20	£5.40	£3.90
Felby	£11.50	£7.60	£6.90	£5.40

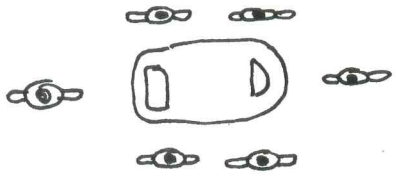
(a) How much does it cost 1 adult and 2 children to travel 2nd class to Felby?

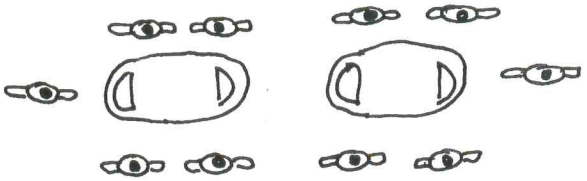
Answer: £

(b) Ben and Anna were taken to Ashbridge by their Aunt Patricia. Their mother gave the children the money for the 2nd class fare but Aunt Patricia paid the extra for them to travel 1st class as well as paying for her own ticket. How much did Aunt Patricia pay?

Answer: £

17. Princess Rose of Ruritania is getting married in July. The Lord Chancellor has to organise the wedding procession which will consist of cars and police motorcycles. The diagrams below show overhead views of one car and motorcycles and of two cars and motorcycles.





(a) Complete the table below which shows how many motorcycles are needed for different numbers of cars.

Number of cars	1	2	3	4
Number of motorcycles	6			

(b) How many motorcycles would you need for 8 cars?

(c) How many cars have you got if you have 42 motorcycles

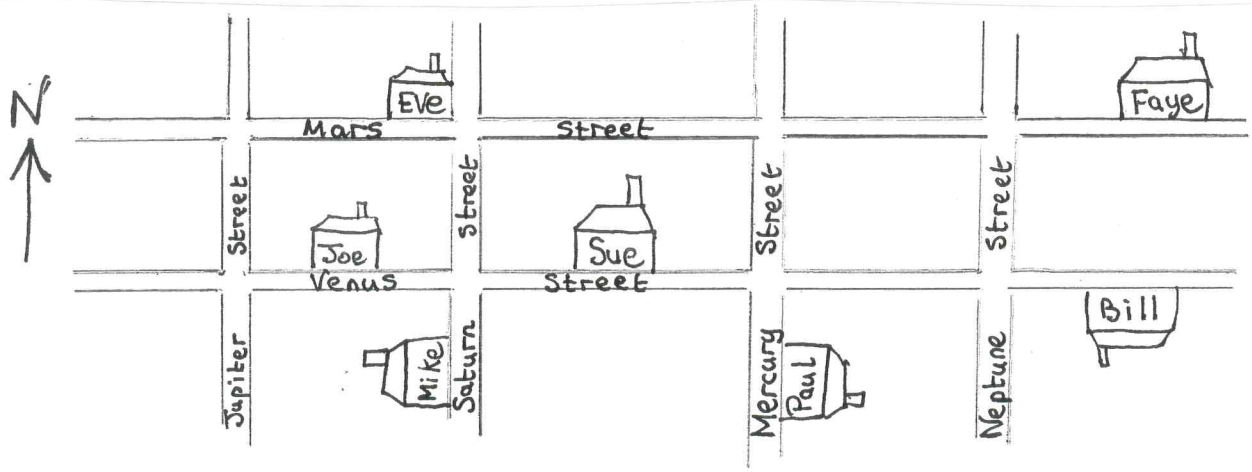
(d) When the Lord Chancellor found out how many cars were going to be needed he asked the police to provide 55 motorcycles. Explain how you know he must have made a mistake.

(e) The boy doing work experience with the Lord Chancellor said it would be much easier to use a formula. Fill in the gaps in his formula.

Number of motorcycles = x number of cars +

(f) What difference would it make to the formula if stretch limos were used with 4 motorcycles on each side of the cars instead of 2?

18. The map below shows the streets in a part of Peterford with the houses of several people marked.



a) Eve lives at the intersection of which two streets?

Answer: street and street

(b)Bill turned left out of his house and took the 2nd turning on the right. Which street did he turn into?

Answer: street

(c)Mike set off from his house and headed north. At the 1st crossroads he turned west. Whose house did he walk past?

Answer:

(d)Faye must get from her house to Joe's house. Write down directions for her to follow.

19. Here is a table for a two-stage number machine.

It multiplies by 5 and then subtracts 3.
Complete the missing numbers in the table

Input	Output
2	7
8	
	52
2.3	
	18

20. Fill in numbers in the table which fit the descriptions

You may use any numbers you like but you must not use any numbers more than once.

The first one has been done for you

	Factor of 18	Prime number
Even number	6	
Multiple of 3		

NOW GO BACK AND CHECK YOUR WORK