



Sydenham
High School

G D S T
GIRLS' DAY SCHOOL TRUST

Mark	Checked

Name:

Maths

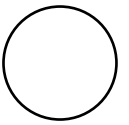
Entrance Examination

SAMPLE

Time allowed: 1 hour
No calculators.
Please show full workings.

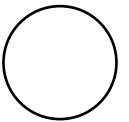
1. Calculate $417 + 359$

Answer:[1]



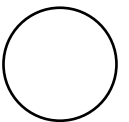
2. Calculate $724 - 249$

Answer:[1]



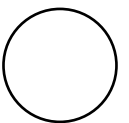
3. Calculate 47×34

Answer:[1]

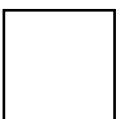


4. Calculate $368 \div 16$

Answer:[1]



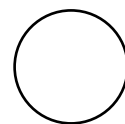
TOTAL MARKS



5. Write down the missing terms in each of the sequences below:

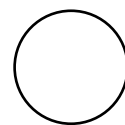
a) 3 , 5 , _____ , _____ , 11 , 13 , _____

[2]



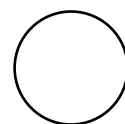
b) _____ , 200 , 100 , _____ , 25

[2]



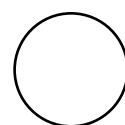
c) 164 , 188 , 176 , 182 , _____ , _____

[2]



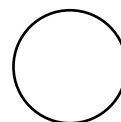
d) 2 , 5 , _____ , 17 , 26 , _____

[2]



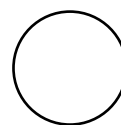
6. a) Work out $\frac{1}{6}$ of 72

Answer:[1]

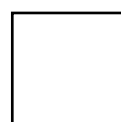


b) Work out $\frac{3}{5}$ of 70

Answer:[2]



TOTAL MARKS



7. a) Round 42942 to the nearest 100

Answer:[1]

b) Round 0.738 to 2 decimal places

Answer:[1]

8. a) Calculate $\frac{3}{5} + 0.4 + \frac{36}{50}$

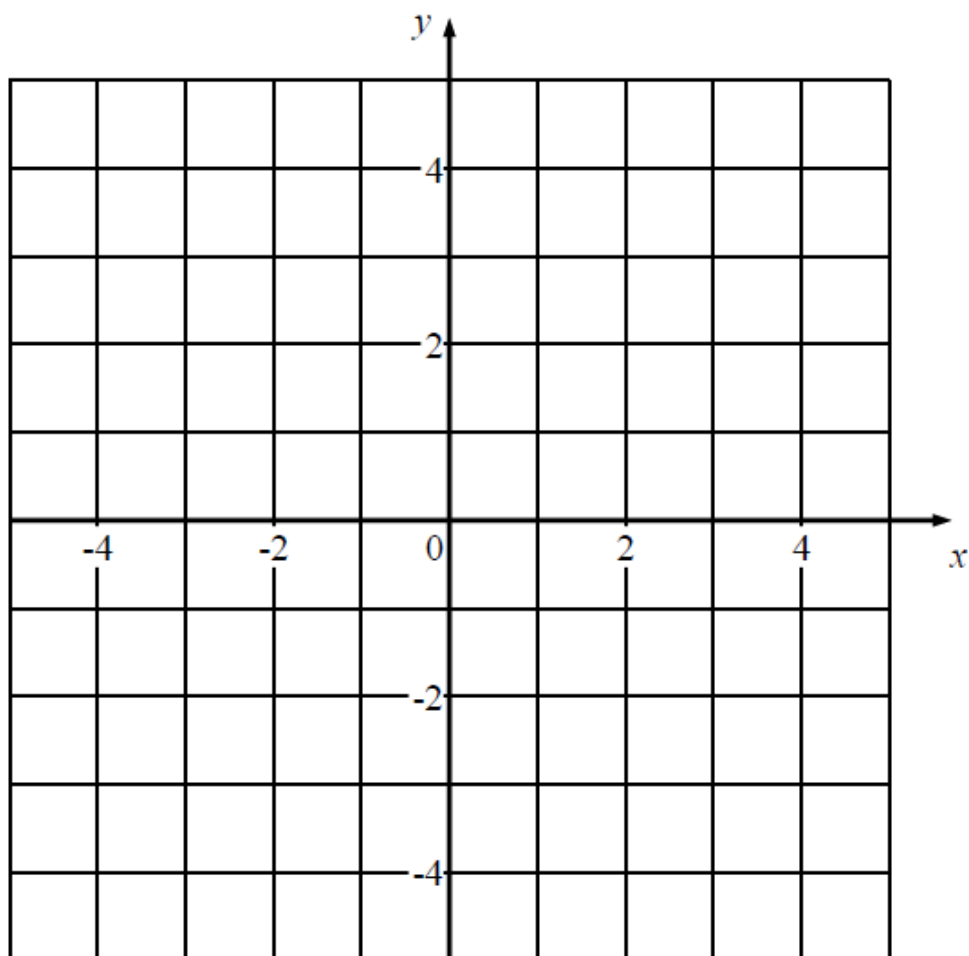
Answer:[2]

b) Find 40% of 600km

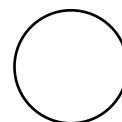
Answer:[2]

TOTAL MARKS

9. a) Mark the points $A(-3, 0)$, $B(1, 0)$ and $C(-1, -3)$ on the axes below.
Label each point clearly.



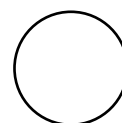
[3]



- b) The y co-ordinate of point D is -1 and $ABCD$ is a kite.

Write down the x co-ordinate of D .

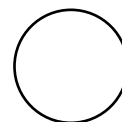
Answer:[1]



- c) The point E is such that $ABCE$ is a parallelogram.

Write down the co-ordinates of the point E .

Answer: (,).[2]



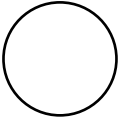
TOTAL MARKS



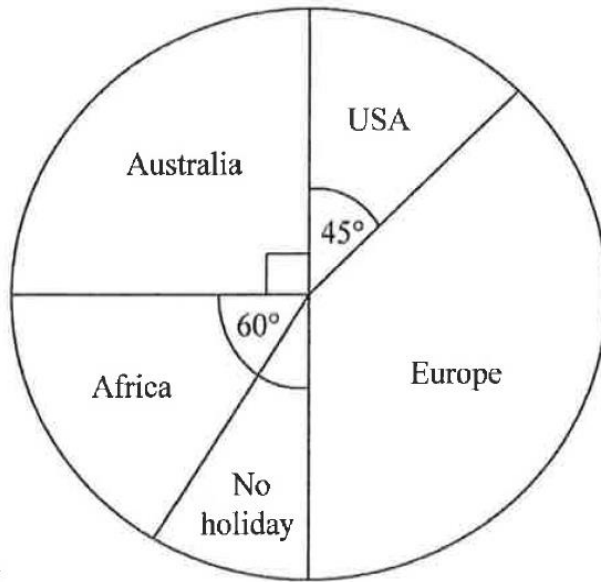
10. Arrange the following fractions in size order, starting with the smallest.

$$\frac{3}{5}, \frac{11}{20}, \frac{5}{10}, \frac{3}{7}, \frac{4}{3}$$

Answer: , , , , [3]

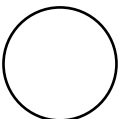


11. Some students were asked where they might be going on holiday next summer. Half of the students said they might be going to the USA or Europe.



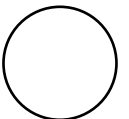
a) Write down the fraction of students who answered 'Australia'

Answer:[1]

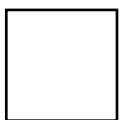


b) If 1200 students took part in the survey, calculate how many answered 'USA'

Answer:[1]




TOTAL MARKS



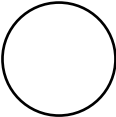
12. In a bag there are only red, blue and green counters.

(a) I am going to take a counter out of the bag at random.

Complete the table below.



Colour of counters	Number of counters	Probability
Red	6	
Blue		$\frac{1}{5}$
Green	6	

[2] 

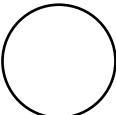
(b) Before I take a counter out of the bag, I put **one extra blue** counter into the bag.

What effect does this have on the probability that I will take a **red** counter?

Tick (✓) the correct box.



- The probability has increased.
- The probability has decreased.
- The probability has stayed the same.
- It is impossible to tell.

[1] 

Please turn over for the next part of this question.

TOTAL MARKS

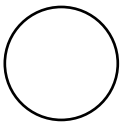
(c) A different bag contains counters that are **red**, **black**, or **green**.

$\frac{1}{3}$ of the counters are **red**
 $\frac{1}{6}$ of the counters are **black**


There are **15 green** counters in the bag.

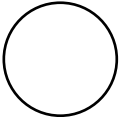
How many **black** counters are in the bag?

Answer:[2]

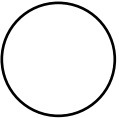


13. Write the missing numbers in these fraction sums.

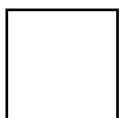
 $\frac{\boxed{1}}{\boxed{4}} + \frac{\boxed{}}{\boxed{8}} = 1$

[1] 

$$\frac{\boxed{1}}{\boxed{3}} + \frac{\boxed{8}}{\boxed{}} = 1$$

[1] 

TOTAL MARKS



14. a) A train leaves London Victoria at 1021 and arrives in Hastings at 1204
How long does this journey from London to Hastings take?
Give your answer in hours and minutes.

Answer:[1]

- b) Another train takes 5 hours to travel 400 miles from London to Edinburgh
What is the average speed of this train in miles per hour?

Answer:mph [2]

- c) A Eurostar train travels from London to Brussels. It leaves London at 0925.
The journey takes 2 hours and 11 minutes.
Brussels is in a different time-zone, 1 hour ahead of London.
What time – in local Belgian time – would the train arrive in Brussels?

Answer: [2]

TOTAL MARKS

15.

A rectangle has an **area** of 24cm^2

How long could the sides of the rectangle be?

Give three **different** examples.



_____ cm and _____ cm

_____ cm and _____ cm

_____ cm and _____ cm

[2]

16.

Write a number in each box to make the calculations correct.



$$\boxed{} + \boxed{} = \boxed{-8}$$

[1]

$$\boxed{} - \boxed{} = \boxed{-8}$$

[1]

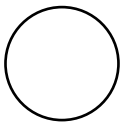
TOTAL MARKS

17. In a survey about food, the **ratio** of the number of people who preferred **pizza** to those who preferred **pasta** was **8 : 3**

35 more people preferred **pizza** than **pasta**.

How many people were in the survey in total?

Answer: [2]



18. I have a list of 6 numbers.

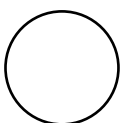
The **mean of my 6 numbers is 20**.

I now add one more number to my list.

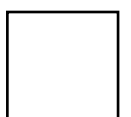
The **mean of these 7 numbers is 19**.

What number did I add to my list?

Answer: [2]

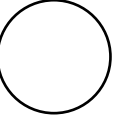


TOTAL MARKS



19. A shop sells two kinds of birthday card: large and small
One week I buy **3 large cards and 2 small cards**. This costs **£13.20**
The next week I buy **2 large cards and one small card**. This costs **£6.80**
How much is a large card, and how much is a small card?

Answer: Large card costs: £..... Small card costs: £.....

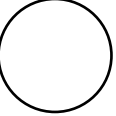
[4] 

20. Look at this equation.

$$y = 2x + 10$$

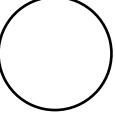
- (a) When $x = 4$, what is the value of y ?

 _____


[1] 

- (b) When $x = -4$, what is the value of y ?

 _____

[1] 

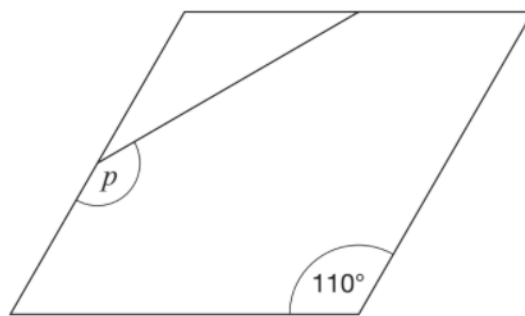
TOTAL MARKS



21.

The diagram shows a **rhombus**.

The **midpoints** of two of its sides are joined with a straight line.



Not drawn accurately

What is the size of angle p ?

[2]

22. In this subtraction, P, Q, R, S and T represent single digits

$$\begin{array}{r} 5\ Q\ 7\ S\ T \\ -\ P\ 5\ R\ 7\ 8 \\ \hline 4\ 4\ 4\ 4\ 4 \end{array}$$

Find the values of P, Q, R, S and T.

P= Q= R= S= T=

[5]

END OF PAPER

TOTAL MARKS