



# Year 7 Entrance Examination

## Mathematics Sample Paper

Time allowed: 1 hour

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**Calculators are not allowed.**

Answer as many questions as you can.


Show all necessary workings in the space below each question.

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Name:

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1. Calculate **47 – 25**

1 mark


2.



A bag has **90** marbles in it.

**4** children take **20 marbles each**.

How many marbles are left in the bag?

1 mark


3. Mina and Ben play a game.



Mina scores **70** points.

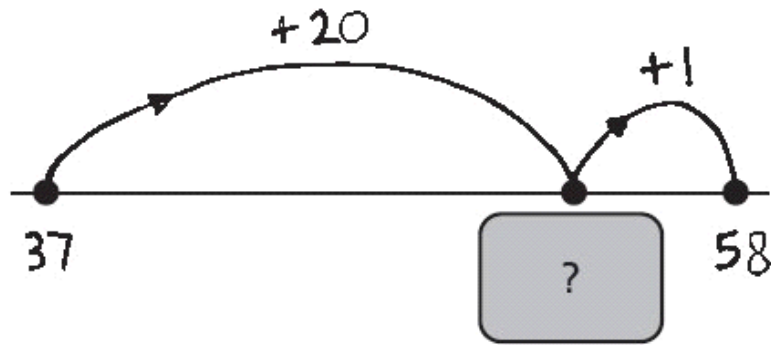
Ben scores **42** points.

How many **more** points does Mina score than Ben?


  

1 mark

4. Katie drew a number line to help her find the answer to  $37 + 21$



What number is hidden under the card?




1 mark

5. Write the missing numbers in this sequence.

 64    32    16        4   


1 mark

6. Calculate  $42 + 16$



1 mark

7. Write in the missing numbers.

  $5 \times 70 =$

1 mark

$4 \times$    $= 200$

1 mark

8. Ben wants to buy a packet of biscuits.



He gives the shopkeeper **65p**

The shopkeeper says,

**'You need 25p more to buy the biscuits'.**

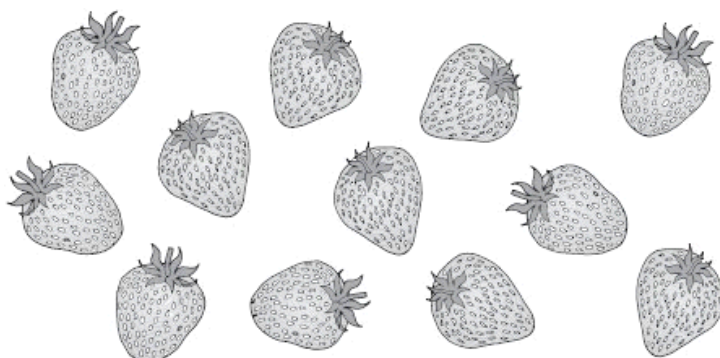
How much do the biscuits cost?

p

1 mark

9. Some children share 12 strawberries.

Each child gets 3 strawberries.



How many children are there?

children

1 mark

10. Write in the missing number.


$$160 \div \boxed{\phantom{000}} = 8$$

1 mark

11. Put these times in order, starting with the shortest.

5 minutes      20 seconds      100 seconds

1 minute



shortest

1 mark

12. Join each box to the correct number.

One has been done for you.



$6 \times 5$  ——— 30

half of 98

double  $4 \times 4$

32


44

49

1 mark

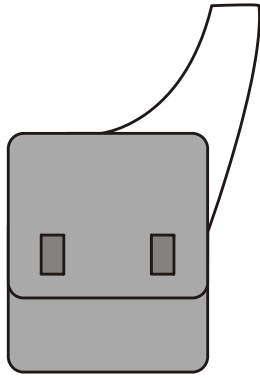
13. The numbers in this sequence increase by 75 each time.

Write in the two missing numbers.

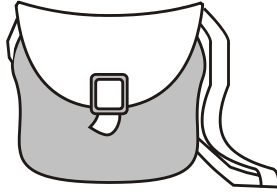
  725    800    875    950   

2 marks

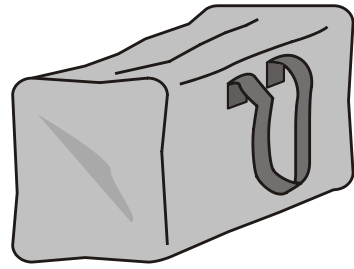
14. Here are three bags in a shop



A  
£11.50



B  
£14.65



C  
£16.50

How much does bag B cost to the nearest pound?



£

1 mark

Jamie buys bag A and bag C.

How much change does he get from £40?

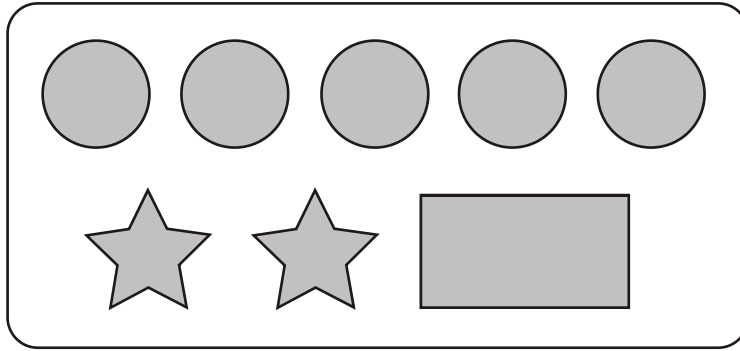


Show your **working**.  
You may get a mark.


£

2 marks

15. On a sheet of stickers there are 5 circles, 2 stars and one rectangle.




How many stickers are there altogether on 4 sheets?

1 mark

Nisha needs 55 circles.

How many sheets of stickers does she need?

1 mark

Ben has 10 sheets of stickers.

How many **more** circles than rectangles does he have?

1 mark

16. Join each number to the set of numbers that it belongs to.

One has been done for you.

357  
199  
73  
1000  
224

1 to 100  
101 to 200  
201 to 300  
301 to 400  
401 to 500  
greater than 500



2 marks

17. Here are two clock faces.

Join each clock face to the correct digital time.


9:20  
3:40  
4:40  
8:40  
8:20  
4:20


2 marks

18.  and  each stand for a different number.

$$\square = 34$$

$$\square + \square = \bigcirc + \bigcirc + \square$$

What is the value of  ?

1 mark

19.



Bottle of milk  
39p



cake  
29p

Ben buys **three** bottles of milk and **six** cakes.

How much does he spend altogether?



Show your **method**.  
You may get a mark.

£

2 marks

20. Emily has these coins.



How much more money does Emily need to make exactly £5?



1 mark

Nisha has **thirty** 5p coins and **twenty** 10p coins.

How much money does she have altogether?



1 mark

21. Write in the missing numbers.



$$+ 75 = 90$$

1 mark

$$4 \times$$

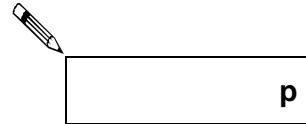
$$= 200$$

1 mark

22. 4 pineapples cost £3.40



Calculate the cost of 1 pineapple.



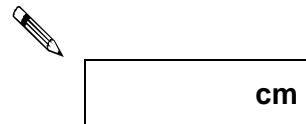
1 mark

23. Kate has a piece of ribbon **one metre** long.

She cuts off 30 centimetres.

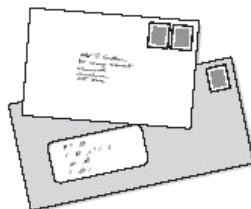


How many centimetres of ribbon are left?



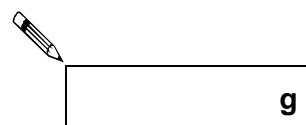
1 mark

24. Two letters have a total weight of **120 grams**



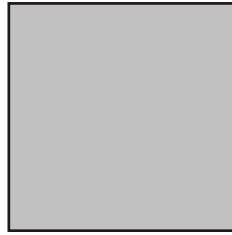
One letter weighs **twice as much** as the other.

Write the weight of the **heavier** letter.



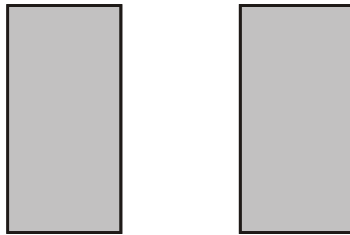
1 mark

25. The perimeter of a square is 72 centimetres.



Not actual size

The square is cut in half to make two identical rectangles.



What is the perimeter of **one** rectangle?



Show your **method**.  
You may get a mark.

A large empty rectangular box with a black outline, intended for the student to show their method for finding the perimeter of one rectangle. A speech bubble with a pencil icon and the text "Show your method. You may get a mark." is positioned to the left of the box, with an arrow pointing into it.

cm

2 marks

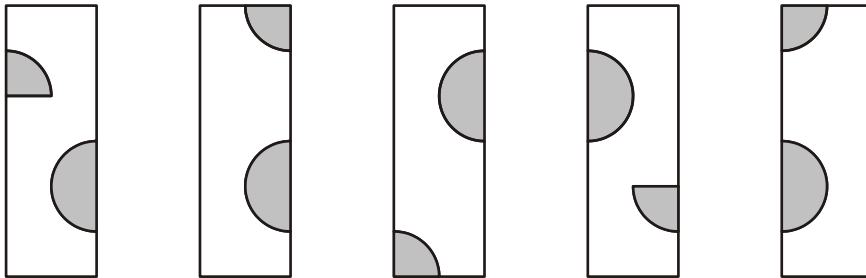
26. Here is a tile.



The tile is turned.

**One** of the diagrams below shows the tile after it has been turned.

Tick (✓) the correct diagram.



1 mark

27.  $m$  stands for a whole number greater than 10 and less than 20

$n$  stands for a whole number greater than 2 and less than 10

What is the **smallest** number that  $m \times n$  could be?



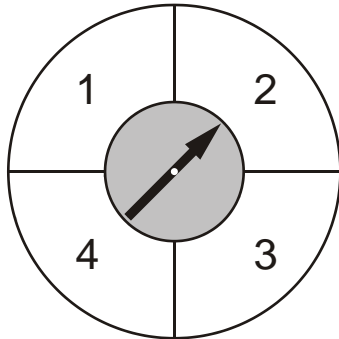
1 mark

What is the **largest** number that  $m - n$  could be?

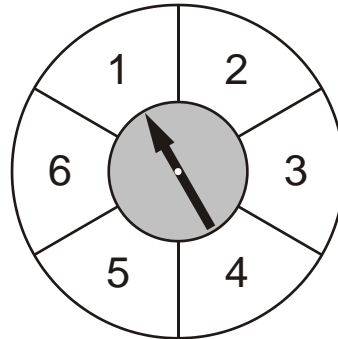


28. Here are two spinners, P and Q.

Spinner P has 4 equal sections.  
Spinner Q has 6 equal sections.



P



Q

Ben spins the pointer on each spinner.

For each statement below, put a tick (✓) if it is correct.  
Put a cross (✗) if it is not correct.



Ben is **more likely** to score 4  
on spinner P than on spinner Q.

The score on spinner P is **certain** to be less  
than the score on spinner Q.

Ben is **equally likely** to score an even number  
on spinner P and spinner Q.

A score of less than 3 is **equally likely**  
on spinner P and spinner Q.

2 marks


29. Tom, Amy and Helen want to go on a boat trip.



There are three boats.

Lark	Heron	Kestrel
50 minute trip	70 minute trip	90 minute trip
Tickets £2.75 each	Tickets £3.50 each	Tickets £4.20 each


How much does it cost altogether for **three** people to go on the **Lark**?



1 mark

Tom and Amy go on the **Heron**. They leave at **2:15pm**.


At what **time** do they return?



1 mark

Helen goes on the **Kestrel** and **gets back at 4:15pm**.


At what **time** did the boat leave?



1 mark

30. John had £5. He gave 25% of it to charity.

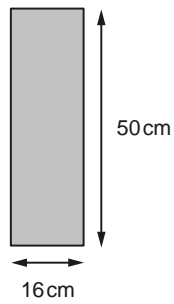
How much did he give?



1 mark

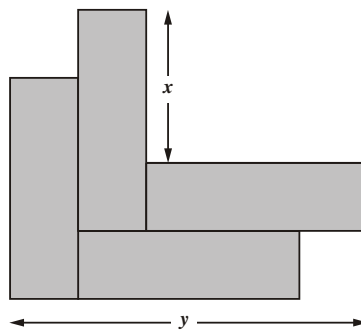
31. Kate has some rectangles.

They each measure 16 centimetres by 50 centimetres.



Not actual size

She makes this design with four of the rectangles.



Work out the lengths  $x$  and  $y$ .



$x =$   cm

1 mark

$y =$   cm

1 mark

32. Circle **one** number in **each** box to make a total of 1000



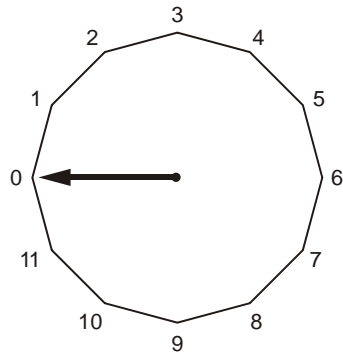
150
250
350
450

200
400

150
250
350
450


1 mark

33. This regular 12-sided shape has a number at each vertex.



Ben turns the pointer from zero, clockwise through  $150^\circ$


Which number will the pointer now be at?




1 mark

Nisha turns the pointer clockwise from number 2 to number 11

Through how many degrees does the pointer turn?





1 mark

34.

Small peaches  
15p each



Large peaches  
25p each



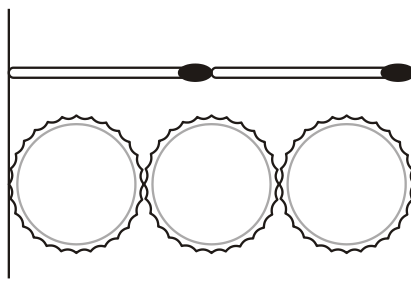
Emily has £5 to spend on peaches. She decides to buy only small peaches or only large peaches.

How many **more** small peaches than large peaches can she buy for £5?



Show your **method**.  
You may get a mark.

35. Two matchsticks have the same length as three bottle tops.



How many bottle tops will have the same length as 50 matchsticks?



Show your **working**. You may get a mark.

2 marks

36.



Emily makes 250 grams of a snack mixture.

15% of the weight is raisins, 25% is banana chips and the rest is peanuts.

How many grams of **peanuts** does she use?



Show your **working**. You may get a mark.

**g**

37. A shop sells notebooks and pens.



Hassan bought a **notebook** and a **pen**. He paid **£1.10**

Kate bought a **notebook** and **2 pens**. She paid **£1.45**

Calculate the cost of a **notebook**.



Show your **working**.  
You may get a mark.

2 marks

38. Ben thinks of a number.



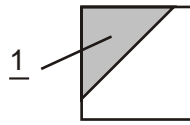
He adds half of the number to a quarter of the number. The result is 60

What was the number Ben first thought of?



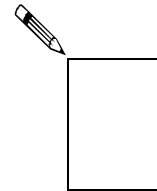
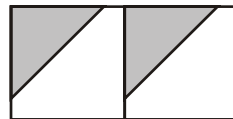
Show your **working**.  
You may get a mark.

39.  $\frac{1}{3}$  of this square is shaded.



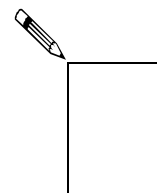
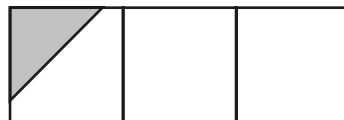
The same square is used in the diagrams below.

What fraction of this diagram is shaded?



1 mark

What fraction of this diagram is shaded?



1 mark