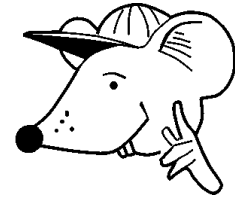


MATHEMATICS



NCT Practice Paper No: 1

Key Stage 2

Levels 3 - 5

Test A

Calculator Not Allowed

MathSphere

© Mathsphere P.O. Box 1234 Worthing BN13 2UJ www.mathsphere.co.uk

MATHEMATICS

Key Stage 2

TEST A Levels 3 - 5**Calculator Not Allowed**

| Page | Marks | Page | Marks |
|--------------|-------|------|-------|
| 4 | | 10 | |
| 5 | | 11 | |
| 6 | | 12 | |
| 7 | | 13 | |
| 8 | | 14 | |
| 9 | | | |
| TOTAL | | | |

**First Name****Last Name****Name of School**

INSTRUCTIONS

You may **not** use a calculator to answer the questions.

Always work as quickly as you can.

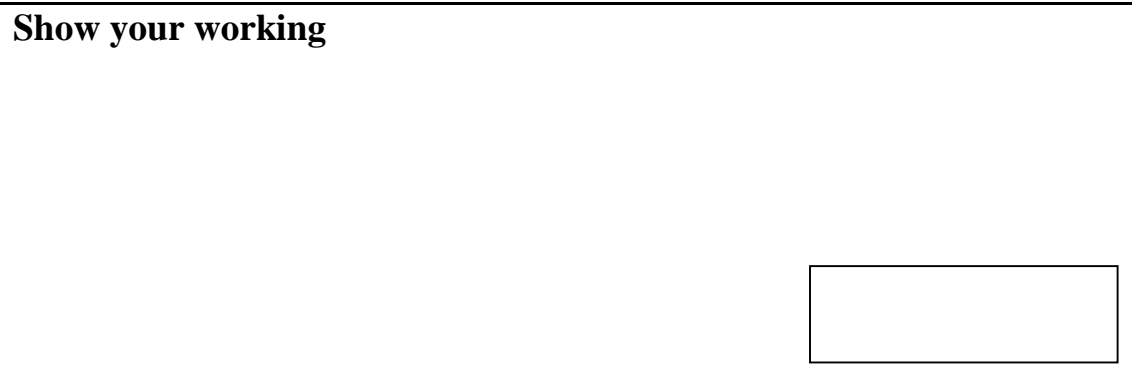
Do not waste time on one question. Go on to another question if you find one difficult.

Always check your work if you have time at the end.

Time allowed for this test: **45 minutes.**

A large box like this means you must show your working:

Show your working



1. Write these numbers in order with the **smallest first**:

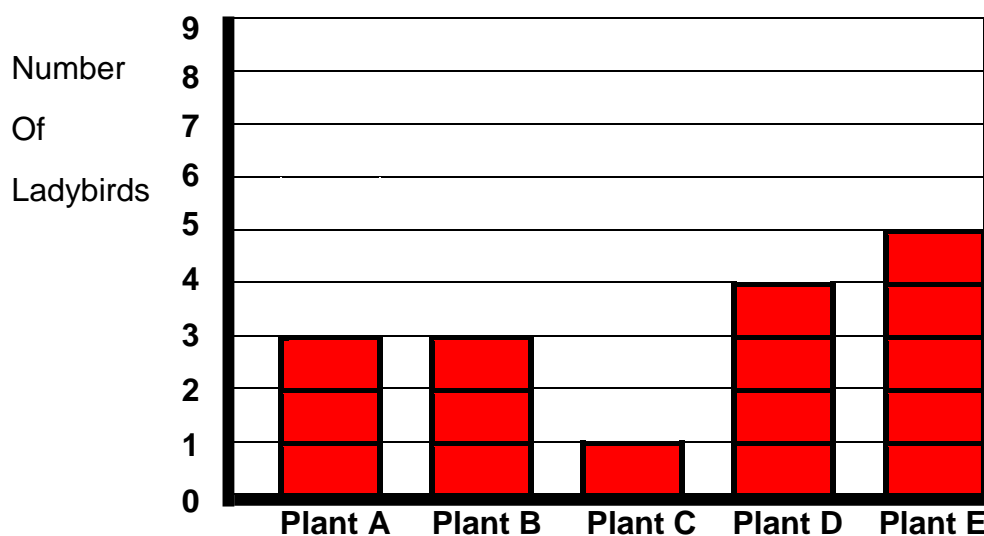
396 273 473 199 847

| | | | | |
|--|--|--|--|--|
| | | | | |
|--|--|--|--|--|

2. In the boxes write **three** numbers that will divide by **5** with no remainder.

| | | |
|--|--|--|
| | | |
|--|--|--|

3. This graph shows the number of ladybirds that landed on five plants in one hour.



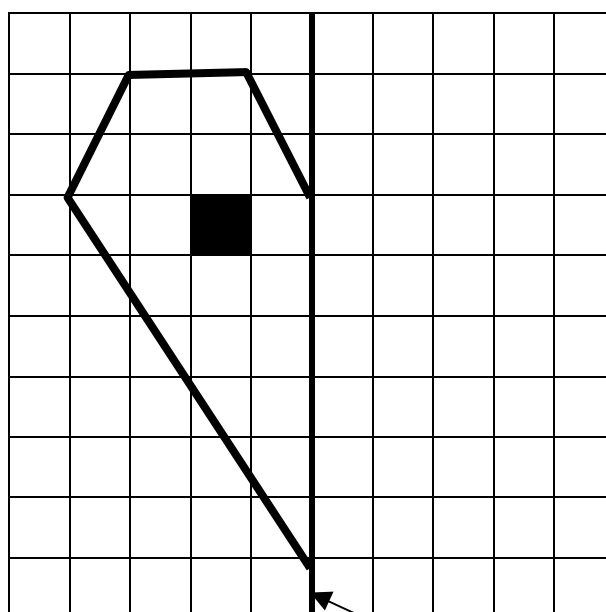
On which plant did most ladybirds land?

| |
|--|
| |
|--|

Which two plants had the same number of ladybirds?

| |
|--|
| |
|--|

4. Draw the reflection of this shape in the mirror line. Use a ruler and tracing paper if you wish.



Mirror Line

5. Here are four number cards:

3

2

6

4

Use all the numbers to make an **addition** sum.
The answer must be **more than 100**.

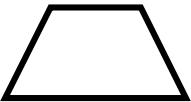

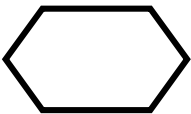
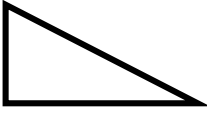

$$\begin{array}{r} + \quad \begin{array}{cc} \square & \square \\ \square & \square \end{array} \\ \hline \end{array}$$

6. Gerry has a die with the numbers from **1** to **10** on it. He throws the die.

Draw lines to show which of these are likely and which are not likely. One has been done for you.

| | |
|--|-------------|
| A number five | Impossible |
| A number less than 10 | Unlikely |
| The same number five times in a row | Even chance |
| An even number | Likely |
| | Certain |

7. Tick or cross the properties of the shapes. One shape has been done for you.

| Shape | Shape property | | |
|---|---------------------|--------------------|------------------------------|
| | Has just four sides | Has parallel sides | Has one or more right angles |
|  | ✓ | ✓ | ✗ |
|  | | | |
|  | | | |
|  | | | |
|  | | | |

8. This table shows the cost of burgers and fries in the Brunchy Burger Bar

| Burgers | | |
|-----------------|-------|-------|
| | Small | Large |
| Cheeseburger | £2.45 | £2.70 |
| Brunchburger | £2.65 | £2.90 |
| Hawaiian | £2.80 | £3.30 |
| Double Topper | £3.30 | £3.60 |
| New York Burger | £2.90 | £3.15 |
| | | |
| Fries | 80p | £1.00 |

a) Mary buys one small Cheeseburger and large fries.

How much does this cost?

b) Kenny buys one small Brunchburger and one large Double Topper.

How much does this cost?

c) Omee buys two different burgers. The total cost is exactly **£6.00**. One was a large burger and the other was a small burger.

Which two burgers did he buy?

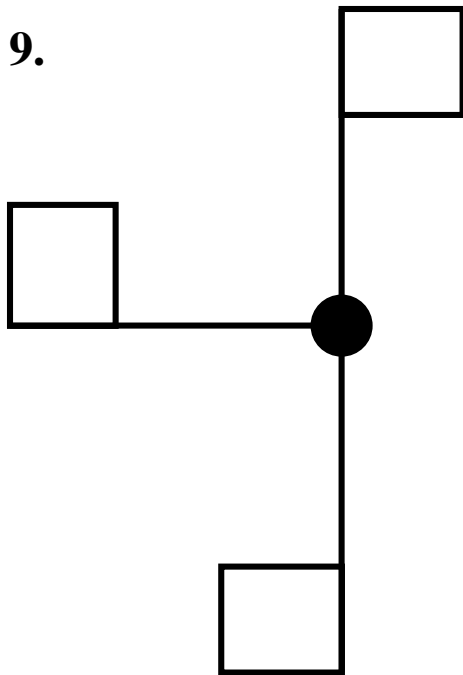
One small _____

and

One large _____

d) What is the **difference** in cost between one large Double Topper and one small Brunchburger?

9.



Four plastic flags are fixed onto a toy windmill at right angles around the black dot.

Draw the other flag in the correct position and the correct way up.

10. The letter m stands for a number.

a) $m - 9 = 20$

What is the value of m ?

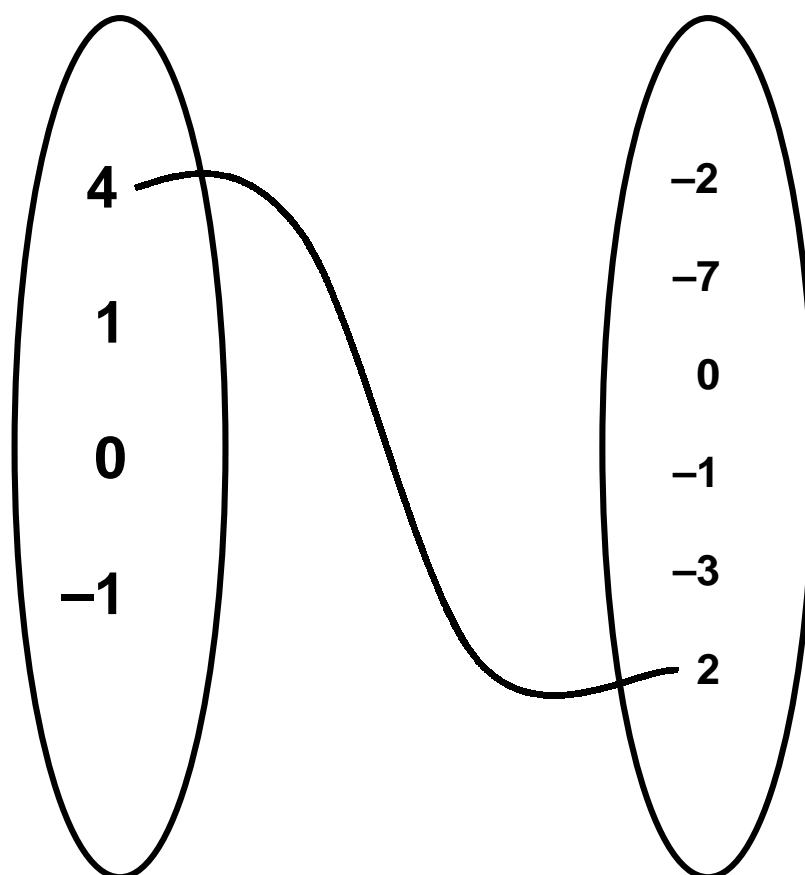
b) $2m + 3 = 18$

What is the value of m ?

11. Calculate 638×34 .

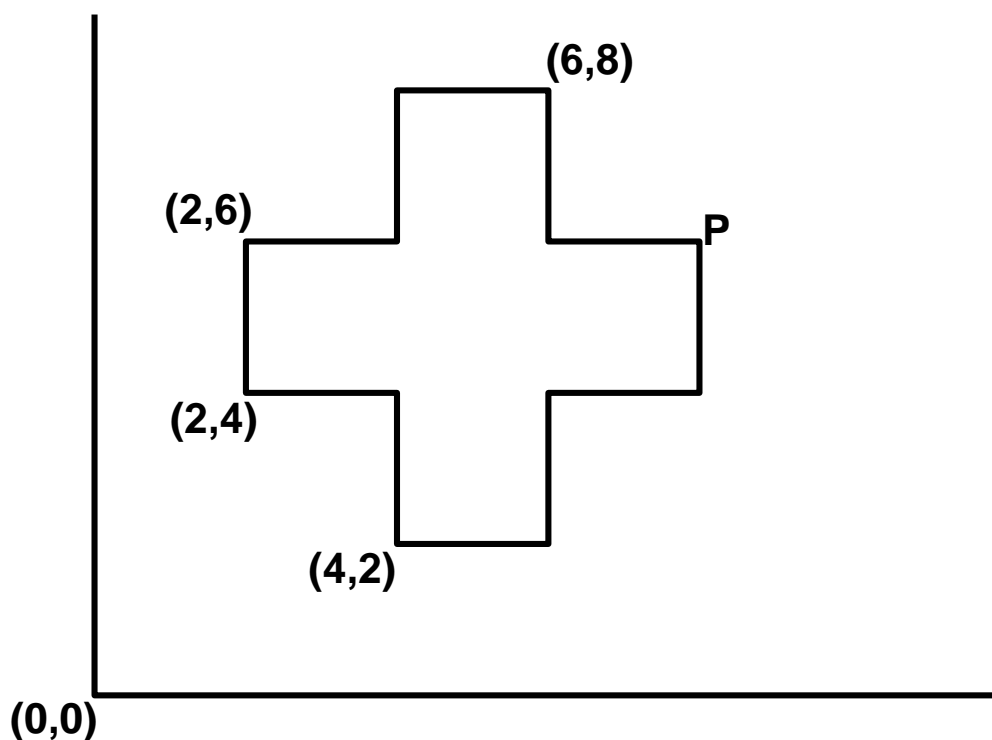
Show all your working

12.



Connect each number on the left to the number on the right which is **two less**.
One has been done for you.

13.



The length of every side of this cross is **two units**.

What are the co-ordinates of point **P** ?

The co-ordinates of point **P** are (____ , ____)

14. Pens for whiteboards are sold in boxes of **8**.

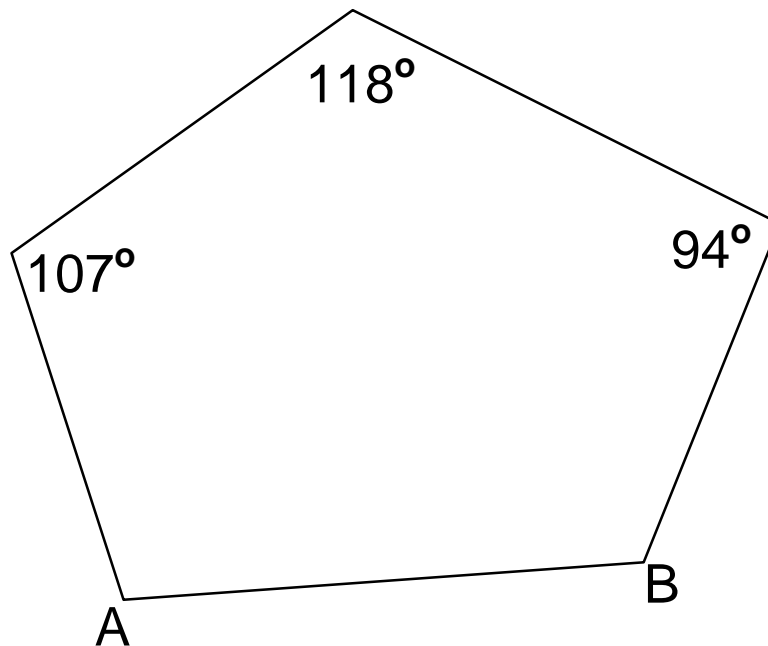
How many pens are there in **4** boxes?

A school buys a box of pens for each class. There are **16** classes in the school.

How many pens do they buy altogether?

What is the total cost of all the pens for the **16** classes if each pen costs **10p**?

15. Here is a **pentagon**.



Measure the **angle A** using an angle measurer (protractor).

Angle A = _____ $^\circ$

Measure the **angle B**.

Angle B = _____ $^\circ$

Add up all the angles of the pentagon.

Total of all angles = _____ $^\circ$

16. If **20%** of John's pocket money is **£0.85**, how much pocket money does he receive?

| | |
|---|--|
| £ | |
|---|--|

- 17.** Mohammed throws two normal dice and finds the **total** of the two numbers.

Explain why the **total of 7** is likely to come up more often than other totals.

Explain why the **total of 13** never comes up.

- 18.** Write **one** number in each box so that the **mean** of all **three** numbers is **12**.

12

Explain how you obtained your answer.

19. Tom wants to paint the walls of his bedroom.

His bedroom measures **4m** by **4m**. It is **2.5m** high.

What is the area of one of the walls?

Area =

m^2

What is the area of all four walls.

Area of all four walls =

m^2

A tin of paint covers **15m^2** .

How many tins of paint must Tom buy to do the job?

Number of tins of paint Tom needs =

20. A builder is mixing concrete. He needs to mix the following:

1 part of cement

6 parts of ballast (sand and stones mixed together)

2 parts of water.

a) He wants to make a concrete drive that needs **18** cubic metres of concrete.

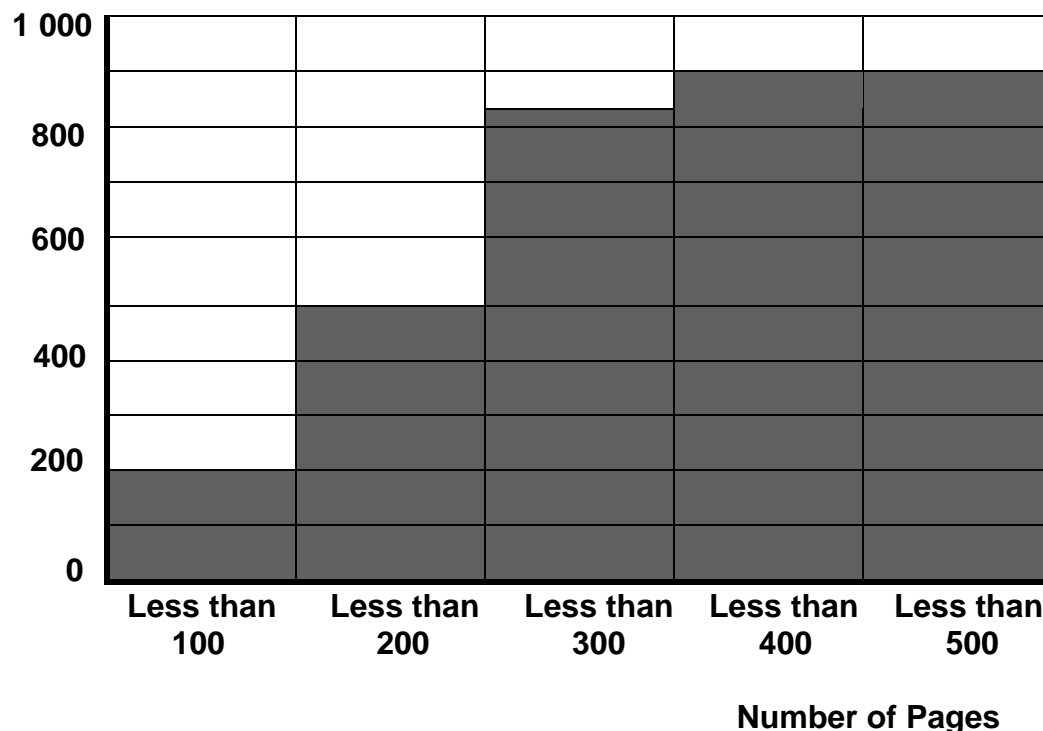
How many cubic metres of ballast does he need?

b) Next he wants to make a base for a bird table.
He needs **0.05** cubic metres of cement.

How much ballast does he need?

How much water does he need?

21. Number of books



Georgina counted the number of pages in all the books in the school library. She plotted her results on the block graph above.

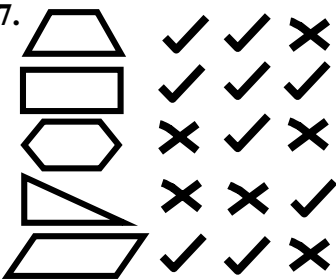
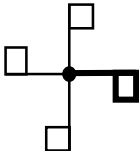
- a) How many books had **less than 100** pages?
- b) Estimate the number of books that had **less than 300** pages.
- c) How many books do you think had **between 100 and 200** pages?
- d) Estimate the number of books in the school library.

End of Test.



Now check your work carefully, please!

Answers

| Answer | Mark | Answer | Mark |
|--|------------------|---|-------------|
| 1. 199, 273, 396, 473, 847 | 1 | 10. a) 29 b) 7.5 | 1 |
| 2. Any three multiples of 5 | 3 | 11. $\begin{array}{r} 638 \\ \times 34 \\ \hline 2552 \\ 19140 \\ \hline 21692 \end{array}$ | 2 |
| 3. a) Plant E | 1 | 12. $1 \longrightarrow -1$ | 1 |
| b) Plants A and B | 1 | $0 \longrightarrow -2$ | 1 |
| | | $-1 \longrightarrow -3$ | 1 |
| 4. Simple reflection of original drawing. | 2 | 13. P is (8,6) | 2 |
| 5. $63 + 42$ or $62 + 43$ | 1 | 14. $\begin{array}{r} 32 \\ 128 \\ \hline £12.80 \end{array}$ | 1 1 1 |
| 6. 'A number five' and 'The same number five times in a row' map to 'unlikely'. | 1 1 | 15. A is $104^\circ \pm 2^\circ$ | 1 |
| 'An even number' maps to 'even chance'. | 1 | B is $117^\circ \pm 2^\circ$ | 1 |
| | | Total is 540° or correct total from child's measurements. | 1 |
| 7.  | 1 1 1 1 | 16. £4.25 | 1 |
| 8. a) £3.45 b) £6.25 | 1 1 | 17. There are more combinations making 7 than any other total (eg 6+1, 5+2) | 1 |
| c) Small Double Topper and large Cheeseburger | 1 | The maximum total is 12 (6+6) | 1 |
| d) 95p | 1 | | |
| 9.  | 1 | 18. Any two numbers giving mean of 12. | 1 |
| | | Correct explanation | 1 |

| | | | |
|---|-------------|--|------------------|
| 19. 10m ² 40m ² 3 tins | 1 1 1 | 21. a) 200 b) 830 - 840 c) 300 d) 900 or 900 + small margin. | 1 1 1 1 |
| 20. a) 12 m ³ b) 0.30 m ³ 0.10 m ³ | 1 1 1 | TOTAL | 50 |