Year 7 mathematics test

Paper 1

Calculator not allowed

Please read this page, but do not open your booklet until your teacher tells you to start. Write your name and the name of your school in the spaces below.

First name ___________________________________________________________________

Last name ___________________________________________________________________

School _____________________________________________________________________

Remember

▪ The test is 45 minutes long.
▪ You must not use a calculator for any question in this test.
▪ You will need: pen, pencil, rubber, ruler, tracing paper and a mirror (optional).
▪ This test starts with easier questions.
▪ Try to answer all the questions.
▪ Write all your answers and working on the test paper – do not use any rough paper. Marks may be awarded for working.
▪ Check your work carefully.
▪ Ask your teacher if you are not sure what to do.

_______________________________

For marker's use only

Total marks
**Instructions**

**Answers**

This means write down your answer or show your working and write down your answer.

**Calculators**

You **must not** use a calculator to answer any question in this test.
1. Anna makes a cube using straws.

   First she joins 4 straws to make a square.
   Then she joins more straws to make a cube.

   Altogether, how many straws does she use?

   1 mark

2. Write the missing numbers.

   \[46 + \square = 73\]

   \[55 - \square = 29\]
Here are two calculations.

\[
\begin{align*}
17 + 15 & \quad 2 \times 16
\end{align*}
\]

(a) Do the calculations have the same answer?

\[
\begin{align*}
\text{Yes} & \quad \text{No}
\end{align*}
\]

Show how you know.

(b) The calculations below have the same answer.
Write the missing number.

\[
\begin{align*}
15 \div 5 & \quad 20 - \\
& \quad 
\end{align*}
\]

(c) Now write the missing number to make this calculation correct.

\[
\begin{align*}
7 + 8 + 9 = 8 \times \\
\end{align*}
\]
Tom has more money than Rifat.
How much more?

\[ .............. \ p \]

2 marks
Children threw beanbags and tried to make them land on the centre of a target.

The diagram shows how far from the centre each beanbag landed.

(a) Which beanbag was about 190cm from the centre? Put a ring round it.

(b) Altogether, how many beanbags were less than 100cm from the centre?

(c) Each child threw three beanbags. How many children played the game?
This pair of decimal numbers add to 1

(a) Write a different pair of decimal numbers that add to 1

(b) The pair of decimal numbers below should add to 1

Write the missing decimal number.
Shade **one more square** on each grid so that **each shape** has **one line of symmetry**.
8 Lisa buys three pens.

She gives the shopkeeper £5 and gets £1.10 change.

What is the cost of one pen?

9 Write numbers in the boxes to make the calculations correct.

\[
\begin{align*}
\phantom{a\quad} + \phantom{a\quad} - \phantom{a\quad} &= 60 \\
\phantom{a\quad} + \phantom{a\quad} - \phantom{a\quad} &= 0.6
\end{align*}
\]
(a) The rule in a number sequence is add 8

Use this rule to write the missing numbers in the sequence.

\[ \ldots \ldots \rightarrow 11 \rightarrow 19 \rightarrow 27 \rightarrow \ldots \ldots \] 1 mark

(b) The rule in a different number sequence is double, then add 1

Use this rule to write the missing numbers in the sequence.

\[ \ldots \ldots \rightarrow 11 \rightarrow 23 \rightarrow 47 \rightarrow \ldots \ldots \] 2 marks
11 (a) How many 4s are there in 40?

(b) How many 8s are there in 40?

(c) How many halves are there in 40?
20 children went to a youth club. The dot plot shows their ages in years.

(a) What was the most common age?

(b) How many of the children were aged 12 or older?
(c) **14 children** went to a different youth club. Here is information about their ages in years.

The youngest children were aged 10

3 children were aged 11

More children were aged 12 than were aged 11

The most common age was 13

No children were older than 13

Show this information on the dot plot below.
The diagrams in this question are not drawn accurately.

(a) The diagram shows Jo’s key.

Use the scale to find the length of Jo’s key.

(b) This time you cannot see all of Jo’s key.

One end is at 2.8cm on the scale.
Where is the other end on the scale?
14 (a) How many degrees are there in a right angle?


(b) The diagram shows a square.

How many degrees is angle \(a\) ?


1 mark

1 mark
Work out the answers to the calculations below.

\[ 6 \times 25 \]

\[ 16 \times 25 \]
The diagram shows three shapes drawn on a centimetre square grid. The area of the rectangle is $8\text{cm}^2$.

(a) What is the area of the square?

\[ \text{......... cm}^2 \]  

(b) What is the area of the triangle?

\[ \text{......... cm}^2 \]
17 (a) Look at this equation.

\[ x + y = 30 \]

What could the values of \(x\) and \(y\) be?
Give one pair of values.

\[ x = \ldots \ldots \ldots \quad y = \ldots \ldots \ldots \]

Now give a different pair of values that \(x\) and \(y\) could be.

\[ x = \ldots \ldots \ldots \quad y = \ldots \ldots \ldots \]

(b) Here is a different equation.

\[ a - b = 30 \]

When \(a = 40\), what is the value of \(b\)?

\[ b = \ldots \ldots \ldots \]
END OF TEST