GROUP ROUND

PRIMARY TEAM MATHS
RESOURCES
2018
www.ukmt.org.uk

UKMT

United Kingdom
Mathematics Trust

Instructions

- Time allowed: 45 minutes.

- There are 15 questions to try to answer in the time allowed.

- Each question is worth *four* marks. A question is marked either correct or incorrect — no partial marks are awarded.

- Some questions are easier than others!

- You will have to decide your team's strategy for this group competition. Do you split up so that individuals work on a few questions each, or do you work in pairs on a greater number of questions? Working all together on all the questions may well take too long. You decide!

- There is only one RESPONSE SHEET per team. Five minutes before the end of the time you will be told to finalise your answers and write them on to the RESPONSE SHEET. This RESPONSE SHEET is the only thing that will be marked.

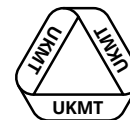- Answers should be in their simplest form where appropriate.

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QUESTION 1

Little Bo-Peep lost half her sheep and didn't know where to find them, she left them alone till they came home, wagging 12 tails behind them.

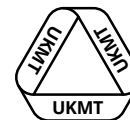How many sheep does Little Bo-Peep have in her flock?

[4 marks]

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QUESTION 2

How many 1s occur in the answer to the multiplication

$123\,456\,789 \times 9$?

[4 marks]

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QUESTION 3

What is the product of the numbers 1, 2, 3, 4 and 5 divided by their sum?

[4 marks]

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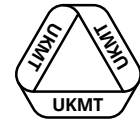
QUESTION 4

What is the smallest number that has exactly nine factors?

[4 marks]

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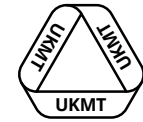
QUESTION 5

At the Great Apes Olympics, the Gorillas, Orangutans, Bonobos and Chimpanzees raced each other once.

The Chimpanzees won 2 races and drew the other race.

The Orangutans drew 2 races and lost the other race.

The Bonobos drew all of their 3 races.

Each team scored 2 points for a win, 1 point for a draw and 0 points for a loss.

How many points did the Gorillas score?

[4 marks]

QUESTION 6

Starting at 1:00 on a twelve-hour clock, how many times over the next four hours is the angle between the minute hand and the hour hand equal to 90°?

[4 marks]

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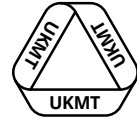
QUESTION 7

In a quadrilateral, one of its angles is twice its smallest angle and another of its angles is three times its smallest angle.

Its largest angle is four times its smallest angle.

What is the largest angle in this quadrilateral, in degrees?

[4 marks]

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QUESTION 8

The volume of a cuboid is 105 cubic centimetres.

Each of the values of its length, width and height are integers, in centimetres.

Each of the values of the length, width and height is greater than 1.

What is the total surface area of the cuboid, in square centimetres?

[4 marks]
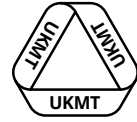
QUESTION 9

A room contains a group of minions.

Each minion has either one eye or two eyes.

In the room, there are twice as many minions with two eyes as there are with one eye.

In total there are 120 eyes in the room.

How many minions in the room have two eyes?

[4 marks]

QUESTION 10

Twenty-seven small cubes are stacked on a table to form a larger cube.

The face of the larger cube that touches the table cannot be seen.

How many small cubes can now be seen with exactly two faces showing?

[4 marks]

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QUESTION 11

In this question the length of a piece of paper is always longer than its width.

A piece of paper had a length of 1200 and a width of 848.

Cutting its length in half, gave a new length of 848 and a width of 600.

Cutting its length in half again, gave a new length of 600 and a width of 424.

I kept cutting the paper in this way until its length was 75 and its width was 53.

How many times did I cut the paper?

[4 marks]

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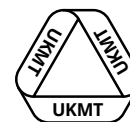
QUESTION 12

How many letters of the alphabet do *not* occur in

'UNITED KINGDOM MATHEMATICS TRUST'?

[4 marks]

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QUESTION 13

Mrs Jones was born on the second of June 1984.

On the second of June 2017 she gave birth to twins.

In which year will Mrs Jones be twice as old as the sum of the ages of her twins?

[4 marks]

QUESTION 14

A swimming pool has a length of 50 metres, a width of 25 metres and a depth of 2 metres.

The swimming pool was filled with water. Unfortunately, the water in the pool turned green.

In order to change its colour back to normal, 5 milligrams of chlorine was put into the pool for every litre of water.

How many grams of chlorine were put into the pool?

1 *cubic metre* = 1000 *litres and* 1 *gram* = 1000 *milligrams.*

[4 marks]

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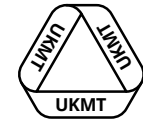
QUESTION 15

There are two Year 6 classes at UKMT Primary School.

Each of the two Year 6 classes has the same number of children.

In one class, $\frac{3}{4}$ of the class are girls.

In the other class, $\frac{3}{7}$ of the class are boys.

Overall there are less than 60 pupils in Year 6.

How many girls are there in Year 6 at UKMT Primary School?

[4 marks]

TEAM NUMBER [   ]   SCHOOL NAME [   ]

1. How many sheep?

⓪ ④

2. How many 1s?

⓪ ④

3. Number

⓪ ④

4. Number

⓪ ④

5. Number of points

⓪ ④

6. How many times?

⓪ ④

7. Angle

⓪ ④

8. Area

⓪ ④

9. Number

⓪ ④

10. Number

⓪ ④

11. Number of cuts

⓪ ④

12. Number of letters

⓪ ④

13. Year

⓪ ④

14. How many grams?

⓪ ④

15. How many girls?

⓪ ④

Award 4 marks for a correct answer.
Circle the mark awarded for each question and cross out the other .

FINAL SCORE /60 [   ]