RELAY

PRIMARY TEAM MATHS
RESOURCES
2018
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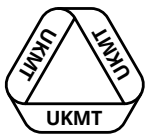United Kingdom
Mathematics Trust

Instructions

- Time allowed: 40 minutes.

- Teams will work in pairs, in separate parts of the room.

- There are 30 questions in total, 15 for Pair A and 15 for Pair B.

- *Two* marks are awarded for every correct answer. Pairs will have two chances to answer each question and there is no penalty for giving a correct answer at the second attempt. A question is marked either correct or incorrect and no partial marks are awarded.
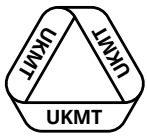
A1

Set A	Set B
3	36
7	46
8	108
28	224
36	251
39	283

Find two numbers from Set A whose sum and product are both in Set B.

Write the numbers of Set A that you have selected.

ANSWER:

A2

I start at the summit of the mountain Aonach Beag at a height of 1234 m above sea level, descend to sea level in Fort William and then climb to the summit of Ben Nevis at a height of 1344 m.

What is the change in altitude (height) in metres when I am at the summit of Ben Nevis compared with when I was at the summit of Aonach Beag?
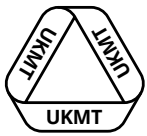
ANSWER:

A3

Triangle *ABC* has no right-angles.

The line *BC* is twice the length of line *AB*.

AB = 4; and *AC* = 11.
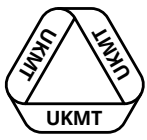
What is the length of the perimeter of the triangle?

ANSWER: _____ units

A4

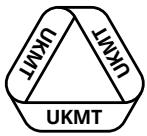What are the next two numbers in this sequence:

| 8 | −5 | 6 | −3 | 4 | −1 | 2 | ... | ... |

ANSWER: _____

A5

It is claimed that three Barbie dolls are sold per second around the world.

Approximately how many (to the nearest million) is this per year?
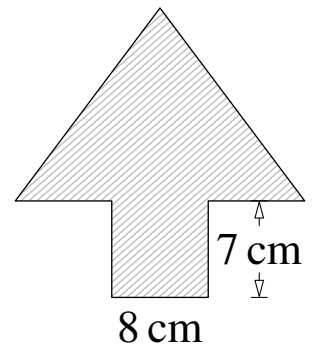
ANSWER: _____ million

A6

The arrow will just fit into a 12 cm square, pointing upright, so that the point of the arrow just touches the middle of one side of the square.
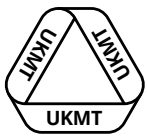
The arrow has one line of symmetry.

7 cm

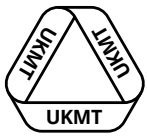8 cm

What is the area of the arrow?

ANSWER: _____ cm^2

A7

Subtract one thousand, two hundred and seventy-eight from twice the sum of one thousand, two hundred and thirty-four and three thousand, four hundred and fifty-six.
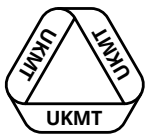
ANSWER:

A8

The ratio of fat to flour in my mum's recipe is 1 : 3

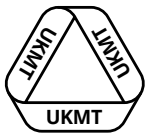I am going to use 420 g of flour.

How much fat do I need?

ANSWER: g

A9

When Jonathan woke up the temperature outside was -2° C. By lunch time it had risen by 7° C. During the afternoon it rose by just one more degree before starting to fall again.
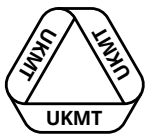
What was the maximum temperature for that day?

ANSWER: _____ °C

A10

Item	Cost per Item
t-shirt	£3.95
pair of shorts	£5.50
jumper	£9.45
pair of socks	£1.75
pair of jeans	£25

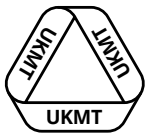What is the total cost of five t-shirts, a jumper and two pairs of jeans?
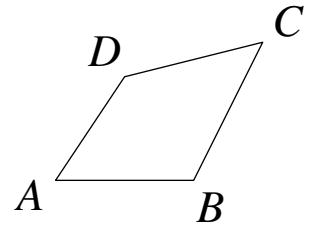
ANSWER: _____

ABCD is a quadrilateral.

Angle *B* = 100°

Angle *A* is a half angle *B*.

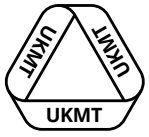Angle *C* is half angle *D*.

What is angle *D*?

ANSWER: [ ]°

Entrance to the Polygon Theme Park costs £15.75 per head and an extra £4.95 for a polygon hat. A party of four enter, and all buy a hat. This entitles the party to a discount on the whole bill of 10%.
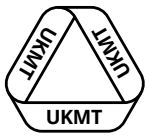
What was their final cost?

ANSWER: [ ]

A13

On Monday, Alex spends -

| 20 minutes at breakfast |
| 30 minutes having tea |
| 8 hours in bed |
| 1 hour dressing and undressing etc |
| 40 minutes walking to and from school |
| 7 hours in school |

How much time does he have left on Monday?

ANSWER:

A14

After the first frost of winter $\frac{1}{3}$ of the leaves fell off the oak tree in my garden. The following day it was quite windy and $\frac{1}{7}$ of the remaining leaves were blown off the tree.

What fraction of the leaves remained on the oak tree?

ANSWER:
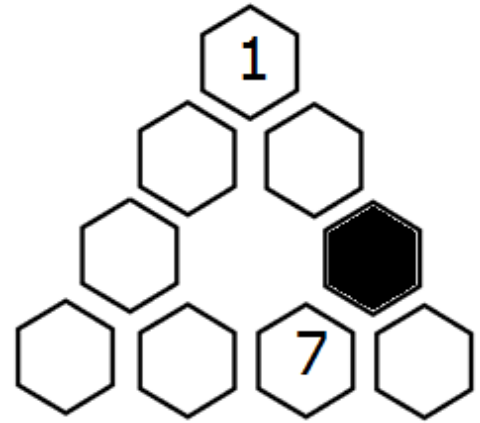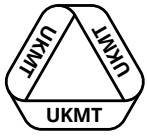
Put the numbers 1 to 9 inclusive in the hexagons to make the totals along each side add up to the same total. Six is in the hexagon between the one and the shaded hexagon.

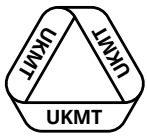What digit will be in the shaded hexagon?

ANSWER:

B1

Find the sum of the next two terms in this series of numbers.
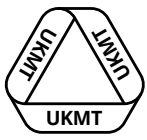
| 29 | 25 | 21 | 17 | ... | ... |

ANSWER:

B2

Jane wants to buy a plant in a pot each for her gran and her aunt. In one shop she sees a plant for £1.45 and a pot for £4.99 and in another shop the pot and plant come as one item at a cost of £5.90.

Jane buys the cheaper option for her gran and her aunt.

How much does she save by not buying the more expensive option?
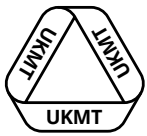
ANSWER:

B3

ABC is an isosceles triangle.

AC = BC

DF is parallel to *AB*

Angle *BCA* = 22°

Calculate angle *CEF*.
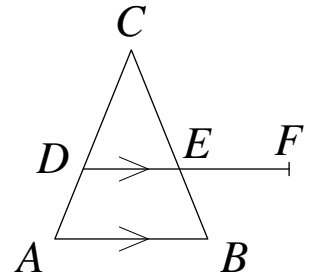
ANSWER: _____ °

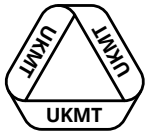**B4**

Add nine hundred and eighty-seven, five hundred and seventy-four, three hundred and twenty-five and one hundred and thirty-two.

ANSWER: _____

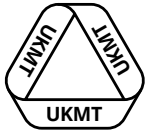| Set A	Set B
2	29
6	36
9	53
15	166
21	243
27	279
31	325

Find two numbers from Set A whose sum and product are both in Set B.

Answer:

When the following are placed in order which is the one in the middle?

$$0.8 \quad \frac{9}{10} \quad \frac{17}{20} \quad 89\% \quad 0.86$$
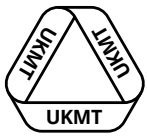
Answer:
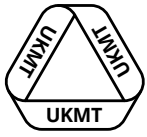
Which answer is the odd one out?

$$4 \times 2 - 9 + 8 =$$
$$(9 + 8 + 7) - (6 + 5 + 4) - (3 - 2 + 1) =$$
$$(2 \times 5 \times 7) - (7 \times 3 \times 3) =$$
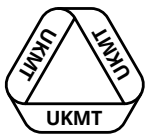$$6 - (12 \div 3) + (2 \times 3) =$$
$$4 \times 7 - 11 - 10 =$$

ANSWER:

There are twenty-eight pupils on the bus, four more girls than boys. One girl gets off and three boys get on.

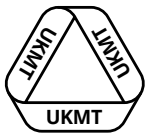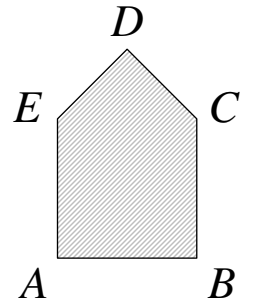How many boys are there on the bus now?

ANSWER:

B9

The pentagon $ABCDE$ has equal sides, but not equal angles.

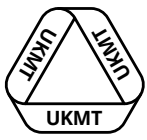Angle A = angle B = 90°

What is angle E

ANSWER: [   ] °

B10

In 1910 it took twelve and a half hours to build a Ford Model T car. After 1914 it only took just over 90 minutes to build the same model.

To the nearest whole number, how many times quicker is this?
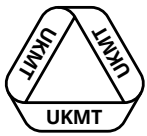
ANSWER: [   ]

Item	Cost per Item
t-shirt	£3.95
pair of shorts	£5.50
jumper	£9.45
pair of socks	£1.75
pair of jeans	£25

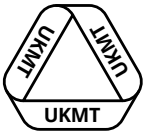What is the total cost of six pairs of socks, a pair of shorts and two jumpers?

ANSWER:

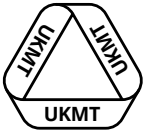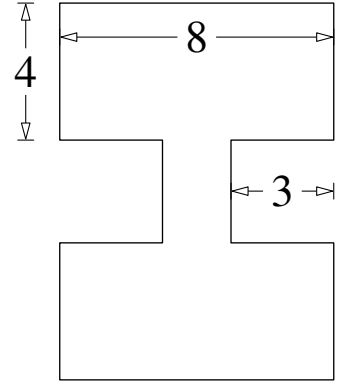Which three discs do you move so that the triangle points down instead of up?
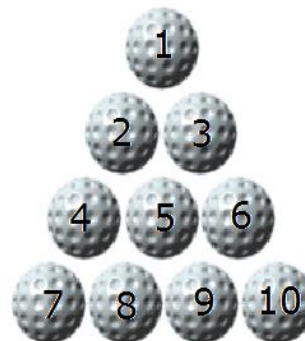
ANSWER:

B13

Two squares each of sides 3 units have been cut out of a rectangle 8 units by 11 units to form this shape.

The shape has two lines of symmetry.

What is the area of this shape?

ANSWER: _____ square units

B14

Zeena bought a jacket with 24% off the original price of £155.

How much did Zeena pay for the jacket?

ANSWER: _____

How many days is $\frac{1}{4}$ of $\frac{1}{13}$ of a year?

Give your answer to the nearest whole day.

ANSWER: | | days