SHUTTLE ROUND

- There are 4 rounds to this Shuttle Round. Each round contains a set of four questions.

- Each round lasts 8 minutes.

- *Three* marks are awarded for every answer correct on the first attempt or *one* mark awarded if correct on subsequent attempts. A bonus of *three* marks is awarded if there is a correct set of answers after 6 minutes. Further instructions for scoring are provided in the Answer Booklet.

- Your team should split into pairs. One pair will be given questions 1 and 3, and the other pair will be given questions 2 and 4.

- You are not allowed to talk to your other pair except through the supervising teacher.

- Question 1 can be solved independently of the other questions. The answer to this question should be written on the answer record sheet and passed to your other pair via your supervising teacher. The second pair will need the answer to question 1 to be able to calculate the answer to question 2, although some work can be done on question 2 before the answer to question 1 is received. The answer to question 1 is referred to as T (e.g. "*T is the number you will receive*"). The first pair can then do some work on question 3, but will need the answer to question 2 to finalise their answer, and so on.

- Once question 4 has been answered, or if the time is up, the questions should be handed to the supervising teacher for marking.

Shuttle Round Score Sheet

School Name: _____   **School Number** _____

Round A			Round B		
A1	3	1	**B1**	3	1
A2	3	1	**B2**	3	1
A3	3	1	**B3**	3	1
A4	3	1	**B4**	3	1
Bonus	3		**Bonus**	3	
Total			**Total**		
Round C			Round D		
C1	3	1	**D1**	3	1
C2	3	1	**D2**	3	1
C3	3	1	**D3**	3	1
C4	3	1	**D4**	3	1
Bonus	3		**Bonus**	3	
Total			**Total**		
Final Total:					

Shuttle Round Answer Record Sheet

Question A1	**Question B1**
Question A2	**Question B2**
Question A3	**Question B3**
Question A4	**Question B4**

Question C1	**Question D1**
Question C2	**Question D2**
Question C3	**Question D3**
Question C4	**Question D4**

A1.

The sum of two whole numbers is 100. Their difference is 20.

Pass on the smaller of the two numbers.

A3. ***T represents the number you will receive.***

Pass on the value of: $\dfrac{T}{5} \times \dfrac{3}{4} + \dfrac{T}{4} \times \dfrac{1}{10} + \dfrac{T}{2} \times \dfrac{1}{5}$.

A2. ***T represents the number you will receive.***

Pass on the sum of these five numbers:

T, $2T$, $T - 10$, $3T - 95$ and $5T - 175$

A4. ***T represents the number you will receive.***

$(3T + 4)$ cm^2 is the area of a square.

What is the perimeter of the square?

B1.

Pass on twice the Lowest Common multiple (LCM) of:

8, 12 and 16.

B3. ***T represents the number you will receive.***

T is the smallest of five consecutive whole numbers.

Pass on the sum of these five numbers.

B2. ***T represents the number you will receive***.

$\dfrac{T-1}{5}$ is the difference between two consecutive square numbers.

Pass on the sum of the digits of the two square numbers.

B4. ***T represents the number you will receive.***

T is the number of people in a survey who were asked what was their favourite take away meal.

The results were represented by a pie chart.

There were 36 who said pizza.

What is the angle of the sector in the pie chart that represents those who said pizza was their favourite take away meal?

C1.

Pass on the sum of the prime numbers between 60 and 70

C3. ***T represents the number you will receive.***

T can be written as the sum of a pair of prime numbers in more than one way.

Find the pair that contains the largest possible prime number.

Pass on this largest prime number.

C2. ***T represents the number you will receive***.

I travel 256 kilometres in $\dfrac{T}{16}$ hours.

My average speed is *X* km/hour.

Pass on the value of *X*.

C4. ***T represents the number you will receive.***

Three angles of a quadrilateral are 2*T* °, 3*T* ° and 4*T* °.

What is the fourth angle?

D1.

An isosceles triangle has two different angles, one twice the other yet it is not a right angled triangle.

Pass on the number of degrees in the larger of the two angles.

D3. ***T represents the number you will receive.***

T cm^3 is the volume of a cube.

The surface area of the cube is X cm^2

Pass on the value of X.

D2. ***T represents the number you will receive.***

The edges of a quadrilateral are: $\frac{T}{8}$cm, $\frac{T}{9}$cm, $\frac{T}{12}$cm and $\frac{T}{18}$cm.

Pass on the value, in cms, of the perimeter of the quadrilateral.

D4. ***T represents the number you will receive.***

The sum of money, *T* pence, can be made up of five coins using coins of just three different denominations.

What is the total amount of money made up by just using one coin from each of the three different denominations?