Mental Maths –
Higher Tier

1) Write four hundred and fifty centimetres in metres.

2) Write in figures the number six thousand, two hundred and five.

3) Round the number 1.372 to the nearest tenth.

4) Subtract forty-three from three hundred.

5) Simplify the expression 5xy – 2xy

6) If x + 5 = 13. What is the value of x?

7) What is 20% of £400?

8) Write down a multiple of three that is greater than one thousand.

9) I started a train journey at twenty-five minutes past six. If the journey lasted forty minutes. At what time did I arrive?

10) John has 2 red pens, 5 blue pens and 3 black pens. If he picks a pen at random, what is the probability that he picks a red pen?

11) A rectangular rugby pitch is 72 metres by 80 metres. What is the area of the rugby pitch?

12) There are 36 seats on a coach. How many seats are there in 5 coaches?

13) How many vertices does a square-based pyramid have?

14) Write down a prime number between 20 and 30.

15) What is the cube root of 64?

16) I eat half a box of chocolates. My friend eats one third of it. What fraction is left?

17) Two angles in a triangle are 54° and 65°. What is the third angle?

18) The mean of three numbers is 11. Two of the numbers are 9 and 14. What is the third number?

19) Which two consecutive numbers add up to 55?

20) What do all the angles of a pentagon add up to?

Answers

1) Write four hundred and fifty centimetres in metres. 4.5 metres

2) Write in figures the number six thousand, two hundred and five. 6205

3) Round the number 1.372 to the nearest tenth. 1.4

4) Subtract forty-three from three hundred. 257

5) Simplify the expression 5xy – 2xy 3xy

6) If x + 5 = 13. What is the value of x? x = 8

7) What is 20% of £400? £80

8) Write down a multiple of three that is greater than one thousand.

   E.g. 1005

9) I started a train journey at twenty-five minutes past six. If the journey

   lasted forty minutes. At what time did I arrive? 7:05

10) John has 2 red pens, 5 blue pens and 3 black pens. If he picks a pen at

   random, what is the probability that he picks a red pen? $^1/_5$

11) A rectangular rugby pitch is 72 metres by 80 metres. What is the area

   of the rugby pitch? 5760 m²

12) There are 36 seats on a coach. How many seats are there in 5 coaches?

180

13) How many vertices does a square-based pyramid have? 5

14) Write down a prime number between 20 and 30. 23 or 29

15) What is the cube root of 64? 4

16) I eat half a box of chocolates. My friend eats one third of it. What

   fraction is left? $^1/_6$

17) Two angles in a triangle are 54° and 65°. What is the third angle? 61°

18) The mean of three numbers is 11. Two of the numbers are 9 and 14.

   What is the third number? 10

19) Which two consecutive numbers add up to 55? 27 and 28

20) What do all the angles of a pentagon add up to? 540°

Tips and Techniques

1. Read each question slowly. You may find it helpful to underline the numbers and important information that will affect your answer.
 For example: Find 23 more than 57?

2. If you do not understand the question straightaway, try reading it through a couple of times until it makes sense.

3. Make sure you read the question carefully. Often, the words highlighted in bold in the question will be the part you need to pay the most attention to, *e.g. Which country had the **greatest increase** in visitors from 2005 to 2006?*

4. Even if you know the answer to the question without working it out on paper, it is important to always show your working out in the box provided. You will lose marks if you do not do this.

5. Always use a ruler when drawing shapes, symmetry or graphs.

6. Topics that are useful to revise;

* **Time** - 24 hour clock, adding a length of time e.g. 45 minutes to a certain time. An example of a question where time is used is - *"The time is one thirty in the afternoon. Write this as it would be shown on a twenty-four hour clock?"*
* **Money** - find the total amount of shopping items, how much change will you get from a £5, £10 note etc.
* **Number calculations** - times tables, addition, subtraction, multiplication and division methods.
* **Measurement** - how many metres in a kilometre, millilitres in a litre and grams in a kilogram?
* **Percentages and fractions** - 1/2=0.5 or 50%, 1/4=0.25 or 25%, 3/4=0.75 or 75%, 1/3=0.33 or 33%, 1/5=0.2 or 20%

7. Check to see how many marks the question is worth. If it is worth more than one mark, make sure you show your working out.

8. Use everyday objects to help your child practice certain topics. For example; a shopping receipt can be good revision for money questions - adding totals and finding change. Other useful objects that you could use are;

* **Television Guide** - Practice the time a programme starts, what time will it finish? how long does the programme last?
* **Weather Chart** - Change in temperature - *e.g. The temperature fell from 3 degrees celsius to -4 degrees celsius. By how many degrees did the temperature fall?*
* **Measure yourself and other family members to practice height** (in cm, metres), weight (in grams, kilograms), area of hands and feet. You could also calculate the average family height, weight etc.