LEVEL THREE CHALLENGE EXERCISE TASK TWENTY FOUR

1. Find the total number of degrees in the following: a revolution; a parallelogram; a kite; a triangle and $\frac{1}{5}$ of a straight angle. _____
2. If number 1's answer is the area of a square (in cm) find the length of one side. _____
3. What must be added to number 2's answer to give you a great gross? Answer in dozens. _____
4. If number 3's answer represents the number of births of sextuplets in one year, how many infants were born? _____
5. Decrease number 4's answer by $3^2 \times 13$. _____
6. Find the number which, when raised to the power of 6, gives you the answer to number 5. (Hint: Use Prime Factorization). _____
7. If number 6's answer is the number of seasons of dry weather which persisted from the 1st July, when did the drought break? _____
8. Calculate the exact number of days this period represented (not a leap year). _____
9. If number 8's answer is the quotient and a millennium + 8 dozen is the dividend, find the divisor. _____
10. One more for you and then you'll get a fresh start. Multiply number 9's answer by a gross, then divide the result in the ratio of 5 : 7 (or $\frac{5}{12} : \frac{7}{12}$) _____
11. Given a rectangular polyhedron with a length of 6cm, breadth of 4cm and a height of 3cm, find its total surface area. _____
12. Let y represent number 11's answer. Now solve this: $y^2 + y - \frac{1}{2}y - 7$ _____
13. If number 12's answer has a special name, then you are a special mathematician. If number 12's answer represents days , how many weeks do you get? _____
14. Using the four digits in number 13's answer, create the highest number you can and the lowest number you can. Now find the difference. _____
15. What must be added to number 14's answer to give you the area of a rhombus with one side equal to 80 mm? _____
16. Express number 15's answer in metres, and record your answer in exponential notation. _____
17. Looking at number 16's answer divide the value of the hundredths digit by the value of the thousandths digit. _____
18. Take the two prime numbers that precede number 17's answer and then complete a Fibonacci sequence with seven elements. _____
19. Take the very last digit in number 18's answer (digit not number), consider this in Roman numerals - reverse the letters, repeat them, add another six letters and then find a word meaning "to give birth to live young" i.e. not lay eggs. _____
20. Take the first two letters of number 19's answer, add Roman numeral for 100, and an anagram for RIOTOUS - and this is what you are! _____