小升初英文奥数题系列之二

第一期英文奥数推出之后，家长和同学们都反映非常好，说受益匪浅。因此我们推出系列二。但同时也有些问题，很多家长反映孩子觉得比较难。首先希望家长多多辅导孩子，其实奥数知识同学们是都会的，但是有些英文单词不认识，希望家长帮助孩子共同提高。另外，我们只是希望那些比较优秀的同学和学有余力的同学来做，没有必要所有同学都要会做。

1、Did you know? In the decimal number system (base 10) ten different digits, 0 to 9, are used to write all the numbers. In the binary number system (base 2) two different digits are used, i.e. 0 and 1.

Which one of the following numbers is not a valid number in the octal number system (base 8)?
A) 128 B) 127 C) 126 D) 125 E) 124

2、The number of diagonals that can be drawn in a regular polygon with twenty sides (icosagon) is_____.

3、If a and b are integers, $10 \otimes 3 = 1, 152 \otimes 7 = 3$, and then $379 \otimes 6$ is equal to_____.

4、Two numbers are in the ratio 2 : 3. When 4 is added to each number the ratio changes to 5 : 7. The sum of the two original numbers is_____.

5、The greatest number of Mondays which can occur in 45 consecutive days is_____

6、Saul plays a video game in which he scores 4 for a hit and lost 6 for a miss. After 20 rounds his score is 30. The number of times he has missed is_____.

7、Three girls A, B and C run in a 100 m race. When A finishes, B is 10 m behind A and when B finishes C is 20 m behind B. How far in metres was C from A when A finished? (Let's assume all the athletes run at a constant speed)

8、The areas of the faces of a rectangular box are 84 cm2 , 70 cm2and 30 cm2. The volume of the box in cm3 is_____.

9、You have 3 weights: 1 kg, 3 kg and 9 kg as well as an equal arm balance, as shown. How many different weight objects can you weigh with these three? [Remember the weights may be placed on either side]

参考答案：

1、A 考察我们学过的简单的进制问题，显然 8 进制中没有 8 出现

2、170 找规律，公式为 n×（n-3）÷2

3、1 定义新运算，就是求 379÷6 的余数。

4、40，16 和 24

5、7

6、5

7、28 米，根据距离比求出速度比，三者的速度比为 1：9/10：18/25

8、420 分解质因数

9、13 种

1、Six trees are equally spaced along one side of a straight road. The distance from the first tree to the fourth is 60 feet. What is the distance in feet between the first and last trees?

2、At the end of 2005 Walter was half as old as his grandmother. The sum of the years in which they were born is 3860. How old will Walter be at the end of 2006?

3、The digits 1,2,3,4 and 9 are each used once to form the greatest possible even five-digit number. What is the digit in the tens place?

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4、Every edge of a cube is colored either red or green. In order to have at least one red edge on every face of the cube, find the minimum number of edges that must be colored red.

5、When 31513 and 34369 are such divided by a certain 3-digit number, the remainders are equal. Find this remainder.

6、Three signal lights were set to flash every certain specified time. The first light flashes every 12 seconds, the second flashed every 30 seconds and the third one every 66 seconds, the signal lights flash simultaneously at 8:30 am. At what time will the signal lights next flash together?