英文奥数

1. maths(English)

1）Find the sum of all the prime numbers Between 20 and 30.

2）Divide the sum of the first five odd numbers by the sum of the first two prime numbers.

3）Subtract 2 from the sum of the first five even numbers. The difference is then divided by the first odd number following 5. What is the quotient?

4）Find the value of[4+8]÷[5×4-6]and give the answer correct to 2 decimal places

1）All the prime numbers between 20 and 30 are 23 and 29，

The sum of all the prime numbers Between 20 and 30 = 23 + 29 = 52

2）The first five odd numbers are 1, 3, 5, 7and 9

The sum of the first five odd numbers = 1 + 3 + 5 + 7 + 9= 25

3）The first two prime numbers are 2 and 3

The sum of the first two prime numbers = 2 + 3= 5

4）The first five even numbers are 2, 4, 6, 8 and 10

The sum of the first five even numbers= 2 + 4 + 6 + 8 + 10= 30

5）The difference between the sum of the first five even numbers and 2

= 30 – 2= 28

6）The first odd number following 5 is 7

The quotient = 28 / 7= 4

7）The value of [4+8]÷[5×4-6]

= 12 ÷ (20 – 6) = 12 ÷ 14= 0.86 (Corr. to 2 decimal places)

2. 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?

3. At the end of 2005 walter was half as old as has grandmother.The snm of the years in which they were born is 3860 .how old will walter be at the end of 2006?

4. 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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1、In 2004, 16 June falls on a Wednesday. On what day of the week will 16 June fall in 2010?

2、 In a magic square the sum of the numbers in each row, in each diagonal and in each column are equal. In this magic square the value of x is:

3、If half of a number is 30, then three-quarters of that number is_____.

4、The sum of the digits of the following product

999×555

5．Three positive integers have a sum of 28. The greatest possible product that these integers can have is_____.

6、Jack was trying to tessellate regular pentagons. He managed the following figure.

The size of angle .a. is_____.

7、If the area of the shaded region of the regular hexagon in the diagram

below is 36 cm2, the area of the whole hexagon in cm2 is_____.

8、In what follows, □ and △ are different numbers.

When 503 is divided by □ the remainder is 20.

When 503 is divided by △ the remainder is 20.

When 493 is divided by □ x △ the remainder is_____.

9、A lady, her brother, her son and her daughter (all related by birth) played volleyball. The worst player's twin (who is one of the four players) and the best player are of opposite sex.

The worst player and the best player are of the same age.

Who cannot be the worst player(s)?

A) brother only B) daughter only

C) son and daughter only D) lady and daughter only

E) lady only

10、If you continue the given number pattern, in what row and in what position in that row will the number 320 be?

1 -------------- row 1

2 3 -------------- row 2

4 5 6 -------------- row 3

7 8 9 10 -------------- row 4

The answers are given in the order of row ; position.

参考答案：

1、Wednesday 2、12 3、45 4、27（求数位上上的数字之和）5、28=9+9+10，因此答案为 810 6、36 度 7、108 8、503-20=483 483=3×7×23＝21×23，因此□ x △ ＝483，因此此题余数是 10. 9、D 10、25，20

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附一道考试真题：

At10:30, the angle less than 180°

Formet by hour hand and minute

Hand of normal clock is_____

***(英汉词典：angle 角；less than 小于；to from 形成；hour hand 时针；

Minute hand 分针；normal 正常，正规； clock 钟，时钟）

***上面是一道关于时钟问题的英文奥数题，猜猜是什么意思？

附参考答案：如果做过相关的时钟问题，借助于所给的解释可以理解到：求 10：30 分时，时针与分针所形成的小于 180 的夹角是多少？答案： 135°。

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有学生问：在钟面上，如果知道 X 时 Y 分，输入一个公式就能得出此时时针与分针夹角的度数。请问这个公式怎么得来？

答：钟面上分 12 大格 60 小格。每 1 大格均为 360 除以 12 等于 30 度。每过一分钟分针走 6 度，时针走 0.5 度，能追 5.5 度。公式可这样得来：

X 时时，夹角为 30X 度。

Y 分，也就是分针追了时针 5.5Y 度。可用：整点时的度数 30X 减去追了的度数 5.5Y。如果减得的差是负数，则取绝对值，也就是直接把负号去掉，因为度数为非负数。

因为时针与分针一般有两个夹角，一个小于 180 度，一个大于 180 度，(180 度时只有一个夹角)

因此公式可表示为：|30X-5.5Y|或 360-|30X-5.5Y|度。||为绝对值符号。

如 1：40 分，可代入得：30×1-5.5×40=-190 则为 190 度，另一个小于 180 度的夹角为：170

度。

如：2：10，可代入得：60-55=5 度。大于 180 度的角为：355 度。

如：11：20，330-110=220 度，小于 180 的角：360-220=140 度。

注：此题为 05 小升初某重点中学招生考试题 。多个学校考了时钟问题。学生问的这道题是十一学校的培训题，但具有普遍性，请大家必须掌握。

再来一个你试试：3：24 时针与分针夹角多少度？

试试这道英语奥数题：

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1、An ant covers a distance of 90 metres in 3 hours. The average speed of the ant in decimetres per minute is＿＿.

2、In a certain town some people were affected by a 'flu'epidemic. In the first month 20% of the population contracted the flu whilst 80% were healthy.

In the following month 20% of the sick people recovered and 20% of the healthy people contracted the disease.

What fraction of the population is healthy at the end of the second month?

3、Mpho, Barry, Sipho, Erica and Fatima are sitting on a park bench. Mpho is not sitting on the far right. Barry is not sitting on the far left.

Sipho is not sitting at either end. Erica is sitting to the right of Barry,but not necessarily next to him. Fatima is not sitting next to Sipho. Sipho is not sitting next to Barry.

Who is sitting at the far right?

4、Of the 28 T–shirts in a drawer, six are red, five are blue, and the rest Are white. If Bob selects T–shirts at random whilst packing for a holiday,what is the least number he must remove from the drawer to be sure that he has three T–shirts of the same colour?

5、In an alien language, jalez borg farn means "good maths skills". Nurf klar borg means "maths in harmony" and darko klar farn means "good in gold".

What is "harmony gold" in this language?

6、Five children, Amelia, Bongani, Charles, Devine and Edwina, were in theclassroom when one of them broke a window. The teacher asked each of themto make a statement about the event, knowing that three of them always lie and two always tell the truth. Their statements were as follows:

Amelia: "Charles did not break it, nor did Devine."

Bongani: "I didn't break it, nor did Devine."

Charles: "I didn't break it, but Edwina did."

Devine: "Amelia or Edwina broke it."

Edwina: "Charles broke it."

Who broke the window?

7、Did you know? A palindrome is a number which reads the same forwards as backwards e.g. 35453. Next year 2002 is an example of a palindromic number. What is the difference between

2002 and the number of the previous palindromic year?

8、If a Åb = (2×a)(3×b) then the value of 2 Å(3 Å5) is____.

9、Two ants start at point A and walk at the same pace. One ant walks around a 3 cm by 3 cm square whilst the other walks around a 6 cm by 3 cm rectangle. What is the minimum distance, in centimetres, any one must cover before they meet again?

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cover before they meet again?

参考答案：

1、 单位换算，注意单词，90×10÷（3×60）＝5

2、 46

3、 0.68

4、 Erica

5、 抽屉原则 7

6、注意一一对应，borg= maths, farn=good, jalez=skills. Klar=in, Nurf=harmony, darko=gold. 答案是 Nurf darko.

7、 Charles

8、 1001

9、 67

10、 108

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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

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

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

5、 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____.

6、The greatest number of Mondays which can occur in 45 consecutive
days is____

7、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____.

8、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)

9、The areas of the faces of a rectangulabox are 84 cm2 , 70 cm2 and 30 cm2. The volume of the box in cm3 is____.

10、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]

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小升初英文奥数题系列之二

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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、B 用排除法
3、170 找规律，公式为 n×（n-3）÷2
4、1 定义新运算，就是求 379÷6 的余数。
5、40，16 和 24
6、7
7、5
8、28 米，根据距离比求出速度比，三者的速度比为 1：9/10：18/25
9、420 分解质因数
10、13 种
    ****************************8
英语实验班招生考试测试最后一道题：
Find all prime numbers (质数)between 1 and 100 that is 1 greater than four and two less than five
（翻译成中文意思是：找出 1 到 100 间的所有比 4 的倍数大 1，比 5 的倍数小二的质数。）.