【尚友制作】数学猴哥难题 112 讲解 11-20

NO 11

n= (k+(r/s)) / (t/v)

in the equation above, k, r, s, t, and v represent positive numbers. Multiplying which one of these numbers by 2 will reduce the value of n to 1/2 of its present value

A. K
B. R
C. S
D. T
E. V

解答：简单的提取常数，分母翻倍，原数 减半。所以答案是作为分母的 T 选择 D

NO 12

n= (k+(r/s)) / (t/v)

in the equation above, k, r, s, t, and v represent positive numbers. Multiplying which one of these numbers by 2 will reduce the value of n to 1/2 of its present value

A. K
B. R
C. S
D. T
E. V

解答：简单的提取常数，分母翻倍，原数 减半。所以答案是作为分母的 T 选择 D

NO 13

Column A	Column B
The two-digit integer that equals twice the sum of its digit	16

解答: 十位为A，个位为B。那么 10A+B = 2（A+B）→ 8A=B → 因为AB都是个位数，所以A=1 B=8，这个两位数是18 比16 大，选A

NO 14

Column A	Column B
The remainder when n is divided by 14	10

解答：n被7除余3 → n=7*a + 3； n为偶数→ a 是奇数 →a=2b+1 其中b为任意整数 → n=7*(2b+1)+3 = 14*b+10 → n除14 余10
所以选C

NO 15

A car travels at an average speed of 80 kilometers per hour during a 6-hour trip and averages 75 kilometers per hour for the first 4 hours of the trip. Which of the following distance-*versus*-time graphs is consistent with this information?
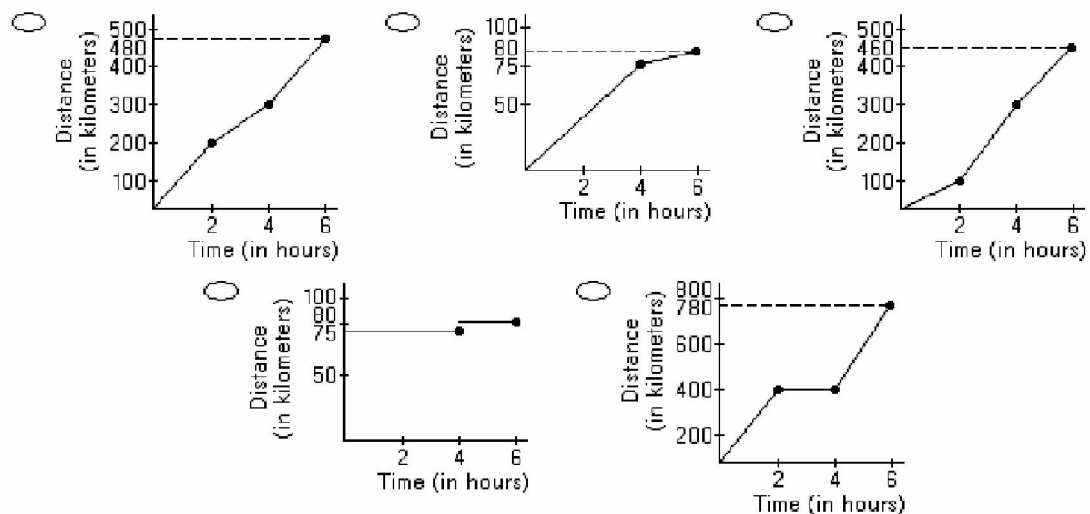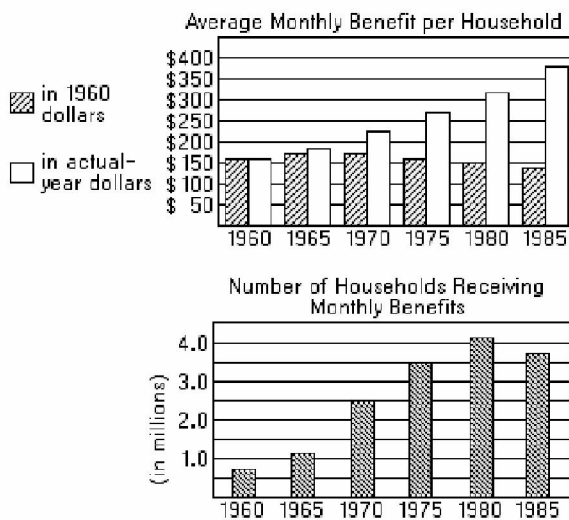

用总量定点算。6 个小时平均速度为 80，那么六小时后，总行驶路程为 480，同理，前四个小时平均速度是 75，那么一共是 300，所以答案是 A

NO 16

These questions refer to the following graphs.

GOVERNMENT AID TO FAMILIES
WITH DEPENDENT CHILDREN

Average Monthly Benefit per Household

in 1960 dollars

in actual-year dollars

Number of Households Receiving
Monthly Benefits

Note: Graphs drawn to scale.

The number of households receiving monthly benefits in 1960 was approximately what fraction of the number receiving monthly benefits in 1975 ?

$\frac{9}{10}$

$\frac{5}{6}$

$\frac{16}{27}$

$\frac{11}{32}$

$\frac{8}{35}$

这一题，是讲 number of households receiving monthly benefit 的，所以看图二，图中显示，1960 年的数据，大概是 0.75 左右， 而 1975 年的为 3.5 左右。那么最接近的答案就是 E 8/35
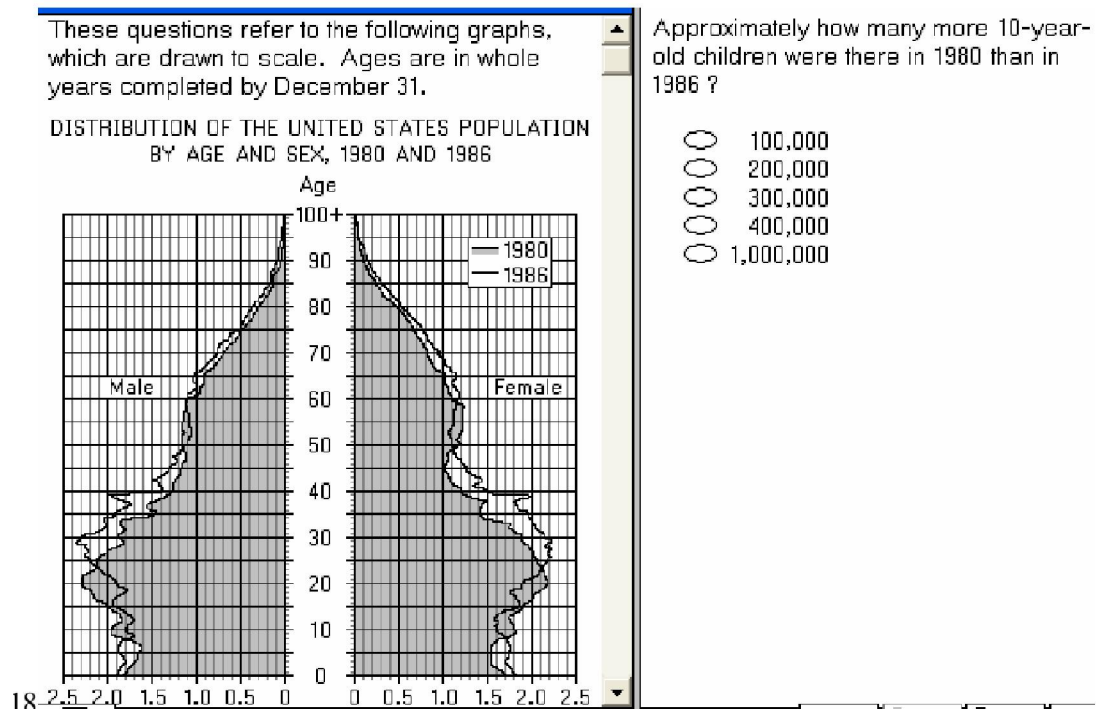
NO 17

题目图见下一题；

The "combined age" of a group of people is the sum of the ages of all of the people in the group. Which of the following groups had the greatest combined age in 1986 ?

20-year-old males
20-year-old females
60-year-old males
60-year-old females
80-year-old females

翻译：combined age 是指这一组人年龄总和，1986 年时哪组 combined age 最大？
解答：根据题意可得，combined age=age* distribution（横坐标） 所以： 20 岁 male：20*1.9=38；60 岁 female：60*1.2=72；以此类推，答案为 D；

NO 18

These questions refer to the following graphs, which are drawn to scale. Ages are in whole years completed by December 31.

DISTRIBUTION OF THE UNITED STATES POPULATION BY AGE AND SEX, 1980 AND 1986

Age

1980
1986

Male

Female

2.5 2.0 1.5 1.0 0.5 0   0 0.5 1.0 1.5 2.0 2.5

Approximately how many more 10-year-old children were there in 1980 than in 1986 ?

100,000
200,000
300,000
400,000
1,000,000

解答：先找到 10 year 的横线，对应的，一定要对应好线，有阴影的是 1980 的，没有的 1986 的。 在 10 year 的水平线上，都是阴影大于单线，也就是会所 1980 比 1986 多。然后就是数格数。左右都是两格左右，所以加起来是四格不到一点，大概就是 0.4，选 D。

NO 19-20

The population of females was greater in 1980 than in 1986 for approximately what percent of the ages from 0 to 100 years?

- ⬭ 15%
- ⬭ 25%
- ⬭ 55%
- ⬭ 75%
- ⬭ 85%

19

@B

In 1980 the ratio of the number of males to the number of females was greatest for which of the following ages?

- ⬭ 10
- ⬭ 30
- ⬭ 50
- ⬭ 70
- ⬭ 90

20

@A

解答：这道题的意思就是在女性群体中，0-100 岁中 1980 比 1986 年多的年龄层占总体的百分之多少。那么就先看右边，然后是 1980 比 1986 多，那么就是阴影比单线多，看图上，是处于 8-23，49-59，大约是 15+10=25. 所以是 25%；

在 1980 年中，一下那个年龄层，男性人数比女性人数的值最高。因为是 1980 年，那么就是看阴影的，

Age	Male	Female	比例
10	2.0	1.8	>1
30	1.9	1.9	=1
50	1.2	1.2	=1
70	0.7	0.8	<1
90	0.1	0.1	=1

选A

活动详情请参见论坛帖子

http://www.sharewithu.com/thread-425567-1-2.html