1

Sixty-eight people are sitting in 20 cars and each car contains at most 4 people. What is the maximum possible number of cars that could contain exactly 1 of the 68 people?

- 2
- 3
- 4
- 8
- 12

@C

2

If $n$ is any prime number greater than 2, which of the following CANNOT be a prime number?

- $n - 4$
- $n - 3$
- $n - 1$
- $n + 2$
- $n + 5$

@E

3

In 1988 Mr. Smith's annual income was greater than Mrs. Smith's annual income. In 1989 Mr. Smith's annual income decreased by $p$ percent, whereas Mrs. Smith's annual income increased by $p$ percent. ($p > 0$)

| Column A | Column B |
|---|---|
| Mr. and Mrs. Smith's combined annual income in 1988 | Mr. and Mrs. Smith's combined annual income in 1989 |

@A

4

How many integers between 101 and 201 are equal to the square of some integer?

- Two
- Three
- Four
- Five
- Six

@C

5

The price of a certain stock was $12\frac{1}{2}$ dollars per share.

The price increased $x$ percent to $15\frac{5}{8}$ dollars per share.

| Column A | Column B |
|---|---|
| $x$ | 20 |

@A

The "reflection" of a positive integer is obtained by reversing its digits. For example, 321 is the reflection of 123. The difference between a five-digit integer and its reflection must be divisible by which of the following?

- 2
- 4
- 5
- 6
- 9

6

@E

| Column A | Column B |
|---|---|
| $\frac{1}{1 - 0.03}$ | 1.03 |

7

@A

The original value of machine $X$ is $V$ dollars, while the original value of machine $Y$ is $2V$ dollars. Both machines depreciate in value at a constant rate of 10 percent of their original value per year.

| Column A | Column B |
|---|---|
| The value of machine $X$ after 3 years | The value of machine $Y$ after 6 years |

8

@B

If $n$ is an odd integer, which of the following is the square of the next larger odd integer?

- $n^2 + 1$
- $n^2 + 4$
- $n^2 + 2n + 1$
- $n^2 + 4n + 4$
- $n^2 + n + 1$

9

@D

If 55 percent of a group of people have brown hair and 80 percent of the same group do not have red hair, what fraction of those who do not have brown hair have red hair?

- ⬭ $\frac{1}{4}$
- ⬭ $\frac{4}{11}$
- ⬭ $\frac{4}{9}$
- ⬭ $\frac{5}{9}$
- ⬭ $\frac{4}{5}$

10

@C

$$n = \frac{k + \frac{r}{s}}{\frac{t}{v}}$$

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 $\frac{1}{2}$ of its present value?

- ⬭ $k$
- ⬭ $r$
- ⬭ $s$
- ⬭ $t$
- ⬭ $v$

11

@D

A certain money market account that had a balance of $48,000 during all of last month earned $360 in interest for the month. At what simple annual interest rate did the account earn interest last month?

- ⬭ 7%
- ⬭ 7.5%
- ⬭ 8%
- ⬭ 8.5%
- ⬭ 9%

12

@E

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

13

@A

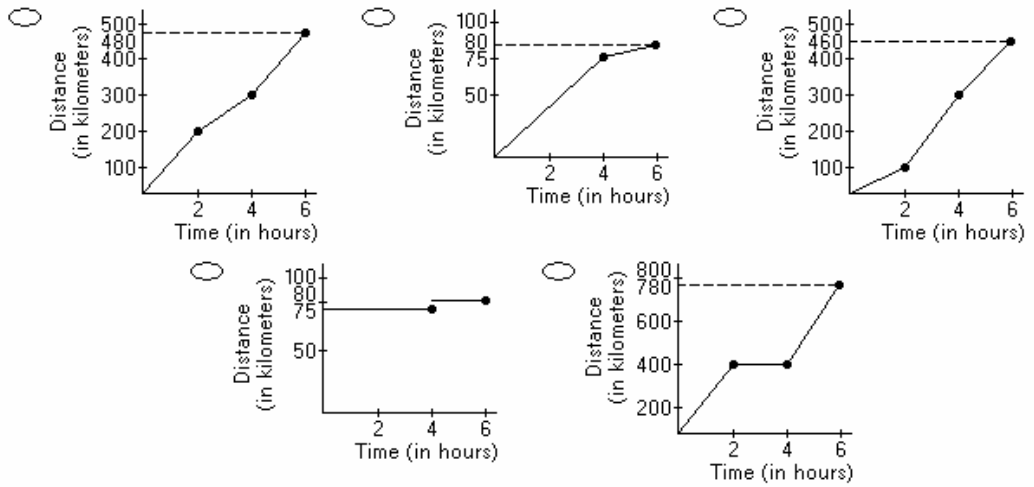
When the even integer $n$ is divided by 7, the remainder is 3.

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

14

@C

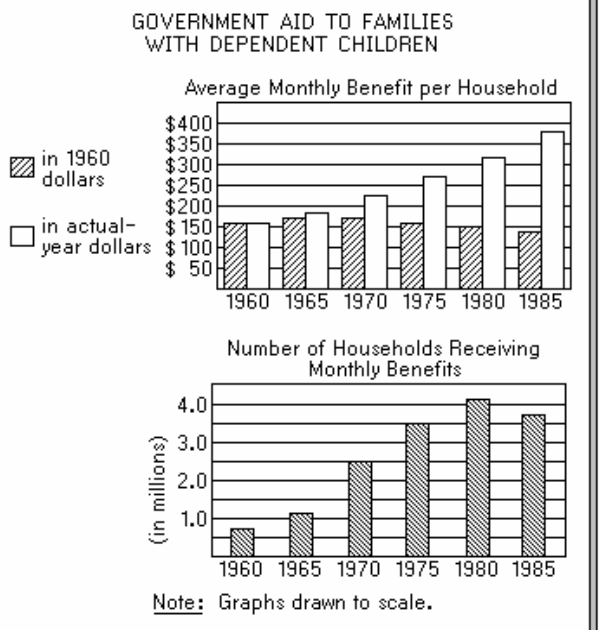
A car travels at an average speed of 80 kilometers per hour during a 6-hour trip and averages 75 kilometers per hour for the first 4 hours of the trip. Which of the following distance-*versus*-time graphs is consistent with this information?




15

@A

These questions refer to the following graphs.




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

- $\frac{9}{10}$
- $\frac{5}{6}$
- $\frac{16}{27}$
- $\frac{11}{32}$
- $\frac{8}{35}$

16

@E

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 ?

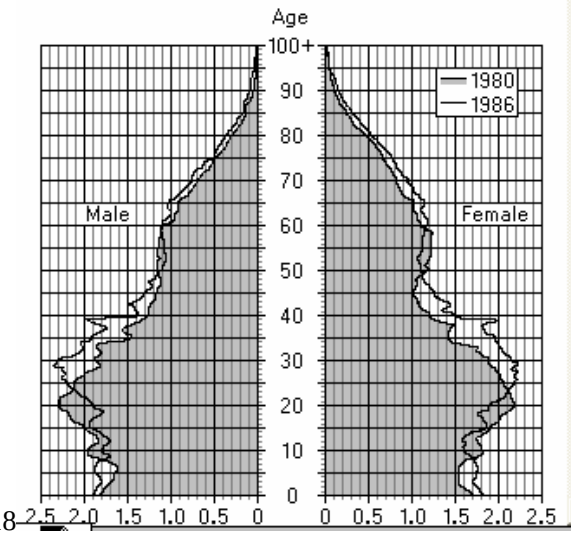
- 20-year-old males
- 20-year-old females
- 60-year-old males
- 60-year-old females
- 80-year-old females

17

@D

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




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

18

@D