

LOGIC

- 2004A 6. Bertha has 6 daughters and no sons. Some of her daughters have 6 daughters, and the rest have none. Bertha has a total of 30 daughters and granddaughters, and no great-granddaughters. How many of Bertha's daughters and granddaughters have no daughters?
- (A) 22 (B) 23 (C) 24 (D) 25 (E) 26
- 2017A 6. Ms. Carroll promised that anyone who got all the multiple choice questions right on the upcoming exam would receive an A on the exam. Which one of these statements necessarily follows logically?
- (A) If Lewis did not receive an A, then he got all of the multiple choice questions wrong.
- (B) If Lewis did not receive an A, then he got at least one of the multiple choice questions wrong.
- (C) If Lewis got at least one of the multiple choice questions wrong, then he did not receive an A.
- (D) If Lewis received an A, then he got all of the multiple choice questions right.
- (E) If Lewis received an A, then he got at least one of the multiple choice questions right.

2000

8. AT Olympic High School, $\frac{2}{5}$ of the freshmen and $\frac{4}{5}$ of the sophomores took the AMC \rightarrow 10. Given that the number of freshmen and sophomore contestants was the same, which of the following must be true?
- (A) There are five times as many sophomores as freshmen.
(B) There are twice as many sophomores as freshmen.
(C) There are as many freshmen as sophomores.
(D) There are twice as many freshmen as sophomores.
(E) There are five times as many freshmen as sophomores.

2011B

8. At a certain beach if it is at least $80^\circ F$ and sunny, then the beach will be crowded. On June 10 the beach was not crowded. What can be concluded about the weather conditions on June 10?
- (A) The temperature was cooler than $80^\circ F$ and it was not sunny.
(B) The temperature was cooler than $80^\circ F$ or it was not sunny.
(C) If the temperature was at least $80^\circ F$, then it was sunny.
(D) If the temperature was cooler than $80^\circ F$, then it was sunny.
(E) If the temperature was cooler than $80^\circ F$, then it was not sunny.

2007B

9. A cryptographic code is designed as follows. The first time a letter appears in a given message it is replaced by the letter that is 1 place to its right in the alphabet (assuming that the letter A is one place to the right of the letter Z). The second time this same letter appears in the given message, it is replaced by the letter that is $1 + 2$ places to the right, the third time it is replaced by the letter that is $1 + 2 + 3$ places to the right, and so on. For example, with this code the word "banana" becomes "cbodqg". What letter will replace the last letter s in the message

"Lee's sis is a Mississippi miss, Chriss!"?

- (A) g (B) h (C) o (D) s (E) t

