By **Gary R. Gruber**

MAY

Brain Teasers

Gary R. Gruber, Ph.D., the author of more than 30 test-prep books and a regular contributor to *Hemispheres* magazine, designed this challenge quiz to test your problem-solving skills. Remember: Creative people look outside the realm of normal thinking to solve problems.

1. Complete the sentence:
His choice for the new judge won the immediate _____of city officials, even though some of them previously had ____ about him.
(A) **acclaim… reservations**
(B) **disdain… information**
(C) **apprehension… dilemmas**
(D) **vituperation... repercussions**
(E) **enmity… preconceptions**

2. How many integers between **10** and **100** are divisible by **3**?

3. The volume of a cube is **27**. What is the sum of the length of all its edges?

4. Find the next letter in the series:
a c d b e g h i f j l m n
(A) **k** (B) **l** (C) **m** (D) **n** (E) **o**

5. It takes Jim four hours to do a job. It takes Tom two hours to do the same job. How many jobs could they do together in four hours?

6. A survey of 50 people who can write showed that 20 can only write with their left hand and 10 could write with either hand. How many could write with their right hand?
(A) **30** (B) **20** (C) **25** (D) **10** (E) **40**

7. The average of the number 10 and an unknown number x, is divided by the sum of 10 and x. The result is ½. What is the value of x?

8. If a sheet of cardboard has an area of 186 square inches, and two pieces each measuring 6 inches by 3 inches are cut out, what is the area of the remaining cardboard?

9. Put the following statements in the correct order:
(1) the price of gasoline doubles
(2) a man cancels an order for a car
(3) a man's car is totally demolished in an accident
(4) a man orders a compact car
(5) a man orders a high horsepower car

10. Complete the analogy:
COURT: LITIGATION:
(A) settlement: client
(B) prayer: litany
(C) judge: lawyer
(D) reconciliation: dispute
(E) tournament: joust

11. A certain orchestra has exactly three times as many string musicians as musicians playing wind instruments. Which of the following can be the combined number of string and wind musicians in this orchestra?
(A) **27** (B) **28** (C) **29** (D) **30** (E) **31**

12. Carl has four times as many quarters as Steve and three times as many quarters as William. If Carl, Steve and William, combined, have fewer than 200 quarters, what is the greatest number of quarters that Carl could have?

13. Jane is three times as old as Ann; three years ago, Ann was a year younger than Joyce is now. If Ellen is twice as old as Ann, list the four girls in descending age order.

14. Beads are strung onto a necklace in this order: red, white, green. A design that begins on red and ends on white could be composed of the following number of beads:
I. 17
II. 29
III. 35
(A) **I** only
(B) **III** only
(C) **II** and **III** only
(D) **I** and **III** only
(E) **I, II** and **III**

15. It is not true that both Freddie and Susan will be hired by Phoenix labs. Which of the following is most nearly equivalent to this statement?
(A) Either Freddie or Susan will be hired by Phoenix labs.
(B) Neither Freddie nor Susan will be hired by Phoenix labs.
(C) Freddie and Susan will be hired by Phoenix labs.
(D) Freddie will be hired by Phoenix labs only if Susan is.
(E) Either Freddie or Susan will not be hired by Phoenix labs.

1. (A); **2.** 30; **3.** 36; **4.** (E) acdbeghifjlmnk; **5.** Three; **6.** (A) The total number of people = the number that can write with both hands + the number that can write with only the left hand + the number that can write with only the right hand: 50 = 10 + 20 + x. Thus x = 20 can write with only the right hand. But 10 can write with both the left and right hand, so 30 can write with the right hand; **7.** (10 + x)/2 divided by (10 + x) = ½ . So = ½ = ½, so x can be any number, so it cannot be determined; **8.** 150 square inches; **9.** 3–5–1–2–4; **10.** (E) Litigation is done in a court as a joust is done in a tournament; **11.** (B) Let S = 3W. S +W = number of string and wind musicians. Thus 3W + W = 4W is the number of string and wind musicians. The only choice where W is a whole number is where 4W = 28 (W = 7); **12.** 120. C = 4S, C = 3W, C + S + W < 200; **13.** Jane, Ellen, Ann, Joyce: JA = 3A, A – 3 = JO – 1, E = 2A. So JA = 3A, A =JO + 2, E = 2A, so JA >E > A > JO; **14.** (E) Where x is a whole number, the number of beads is 3x + 2 since you are left with only a red and a white and all the rest are red, white and green. Thus see if x is a whole number where 3x + 2 = 17, 29 and 35; **15.** (E)