1. Fourteen people are entered in a race. If there are no ties, in how many ways can the first two places come out?

   [A] 182   [B] 7   [C] 150   [D] 364

2. Eight people are entered in a race. If there are no ties, in how many ways can the first three places come out?

   [A] 336   [B] 304   [C] 24   [D] 672

3. Lupe has a 3-digit combination lock on her bicycle chain and has forgotten the combination. If she knows that the first digit is a 4, how many numbers must Lupe try before the lock is sure to open?

   [A] 40   [B] 400   [C] 36   [D] 100

4. Laura has a 4-digit combination lock on her briefcase and has forgotten the combination. If she knows that the first digit is a 3, and the second digit is prime, how many numbers must Laura try before the lock is sure to open?

   [A] 400   [B] 27   [C] 1200   [D] 120

5. An ATM (Automatic Teller Machine) card holder can be given a 4-, 5-, or 6-digit code to use as personal identification. How many different codes are possible? (Digits can be repeated.)

6. This graph shows the number of students that play instruments in the band.
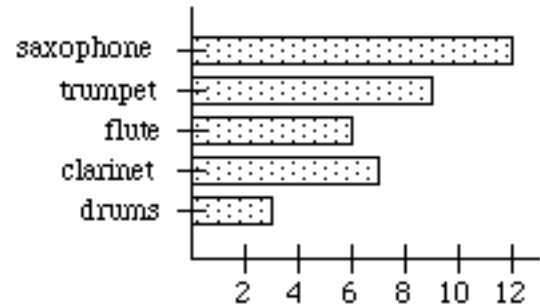
   In how many different ways can the chairs for first trumpet, second trumpet, and third trumpet be filled?

7. In how many ways can 12 basketball players be listed in a program?

8. How many different ways can you arrange five people shoulder-to-shoulder in a line?

9. How many different ways can you arrange six scoops on a cone?

10. Use any problem solving strategy to solve the following problem.
    There are 120 ways to arrange books on a shelf. How many books are there?

[1]   A

[2]   A

[3]   D

[4]   A

[5]   1,110,000

[6]   504

[7]   479,001,600

[8]   120

[9]   720

[10] 5