

**Approximating - Adding A Series Of Numbers:**

- A. These types of problems will almost always be found on problem #10 and nowhere else.
- B. Since these problems are approximations you can make it easier and faster on yourself by rounding some numbers with discretion. A basic rule of thumb is "the larger the numbers, the more you can round."

Ex [1]  $558 + 243 - 132 + 69 = \underline{\hspace{2cm}}$ .

- a. In this problem, the numbers are not large but small, so I would round with extreme discretion.
- b. It is safe to use:  $600 + 200 - 130 + 70$ , because the first number is less than 600 about the same distance as the second number is greater than 100. You would get 740.
- c. However, you could use:  $560 + 200 - 100 + 70$ , because 243 is almost the same distance from 200 as 132 is from 100. You would get 730.
- d. The answers can be between 702 and 774.

Ex [2]  $4589 + 6743 - 1237 + 555 = \underline{\hspace{2cm}}$ .

- a. In this problem, the numbers are larger, so we have a greater leniency.
- b. It is safe to use:  $5000 + 6000 - 1000 + 600$ , because 4589 is close to the same distance from 5000 as 6743 is from 6000 and also 1237 is close to 1000 but to make sure round 555 up. You would get 10600.
- c. The answer can be between 10118 and 11182.

- C. Many times there will be numbers on the question that are insignificant and can be ignored.

Ex [3]  $14141 - 1414 - 141 - 14 - 1 = \underline{\hspace{2cm}}$ .

- a. In this problem we are dealing with big numbers and the small ones should be ignored. The first 2 numbers are the only important ones.
- b. It is safe to use:  $14400 - 1400$ , since the numbers are relatively big; we have more leniency. You would get 13000.
- c. The answer can be between 11943 and 13199.

- D. In short, there are numerous ways to going about solving these types of approximations. It takes practice to learn how much you can round.
- E. If you do not feel comfortable rounding so much (as in Ex [3]), then you can round first and subtract a little off in the end just to be sure. This practice saved me a few times.