

**Hello. 17Nov; 1995.** Write expressions unambiguously e.g, “ $1/a + b$ ” should be bracketed either  $[1/a] + b$  or  $1/[a + b]$ . (Be careful with **negative** signs!) Do **not** approx.: If your result is “ $\sin(\sqrt{\pi})$ ” then write that rather than .9797... .

**B4:**

**a** In a disk, of radius 5ft, you drill a radius 2ft hole whose edge passes through the center of the disk. How far from the center of the *hole* is the centroid of the holed-disk? .

**b**  $\sum_{n=3}^{\infty} \left[ \frac{1+2i}{3} \right]^n = \dots + [i \cdot \dots]$ .

**c** Express this sum as a rational in lowest terms.  
 $\sum_{n=1}^{\infty} \frac{2^n - 5^n}{10^n} = \dots$

**d** Suppose  $[C + Di]^2 = -4i$ , where  $C, D \in \mathbb{R}$ . Then  
 $C = \dots$  and  $D = \dots$ .

**e** Sum  $\sum_{n=4}^{50} \frac{1}{n^2 - n} = \frac{U}{D}$ , where  $U = \dots$   
 and  $D = \dots$  are co-prime posints.

End of Class-B

**B4:** \_\_\_\_\_ 150pts

**Total:** \_\_\_\_\_ 150pts

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