

Q1. The maximum value of $|z|$ when z satisfies $\left|z + \frac{2}{z}\right| = 2$

(a) $\sqrt{3} - 1$

(c) $\sqrt{3} + 1$

(b) $\sqrt{3}$

(d) $\sqrt{2} + \sqrt{3}$

Q2. If $|z_1 - 1| < 1; |z_2 - 2| < 2; |z_3 - 3| < 3$ then $|z_1 + z_2 + z_3|$

(a) less than 6

(b) less than 12

(c) less than 3

(d) none

Q3. If z is a complex no. satisfying $|z|^2 - |z| - 2 < 0$ then the value of $|z^2 + z \sin \theta|$ for all values of θ

(a) equal to 4

(b) 6

(c) more than 6

(d) less than 6

Q4. If $\bar{z} = 3i + \frac{25}{z + 3i}$ then $|z|$ cannot exceed

(a) 3

(b) 8

(c) 16

(d) 18