Q1. If $\arg(z) < 0$ then $\arg(-z) - \arg(z)$

(a) π

(b) $-\pi$

(c) $-\frac{\pi}{2}$

(d) $\frac{\pi}{2}$

Q2. Let z, w be two complex numbers such that $\bar{z} + i\bar{\omega} = 0$ & $\arg(z\omega) = \pi$ then $\arg(z)$ equals

(a) $3\pi/4$

(b) $\pi/2$

(c) $\pi/4$

(d) $5\pi/4$

Q3. If z_1 & z_2 are two complex numbers such that $|z_1| = |z_2| + |z_1 - z_2|$ then $\arg(z_1) - \arg(z_2)$

(a) 0

(b) $\pi/2$

(c) $-\pi/2$

(d) none

Q4. If $z = x + iy$ is a variable complex number such that $\arg\left(\frac{z-1}{z+1}\right) = \frac{\pi}{4}$

(a) $x^2 - y^2 - 2x - 1 = 0$

(b) $x^2 + y^2 - 2x - 1 = 0$

(c) $x^2 + y^2 - 2y - 1 = 0$

(d) $x^2+y^2+2x-1=0$