

Question 5

If $z \in \mathbb{C}$, where $\operatorname{Re}(z) > 0$ and $\operatorname{Arg}\left(\frac{z}{\bar{z}}\right) = \frac{\pi}{3}$, then $\operatorname{Arg}(z)$ is equal to

- A. 0
- B. $-\frac{\pi}{3}$
- C. $\frac{\pi}{2}$
- D. $\frac{\pi}{3}$
- E. $\frac{\pi}{6}$

Question 6

Which one of the following relations represents a graph of a straight line that passes through the origin?

- A. $\operatorname{Re}(z) + \operatorname{Im}(z) = 1$
- B. $z + \bar{z} = 1$
- C. $\operatorname{Re}(z) - \operatorname{Im}(z) = 0$
- D. $z\bar{z} = 1$
- E. $\operatorname{Re}(z)\operatorname{Im}(z) = 1$

Question 7

A curve C is defined by the equation $x^2 - 4xy + 2y^2 = -2$.

Equations of all tangents that are parallel to the x -axis will satisfy the condition

- A. $y = 2x$
- B. $y = x$
- C. $y = \frac{x}{2}$
- D. $y = -\frac{x}{2}$
- E. $y = -x$