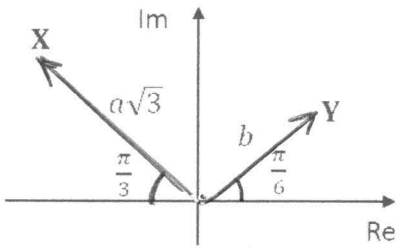

a : 1 .

b : 3 .

$\mathbf{A} = \mathbf{X} + \mathbf{Y}$

Find $d = |\mathbf{A}|^2$

$$X = \sqrt{3}\, e^{j\frac{2\pi}{3}} = \sqrt{3}\left(-\frac{1}{2} + \frac{\sqrt{3}}{2}j\right) = -\frac{\sqrt{3}}{2} + \frac{3}{2}j$$

$$Y = 3\, e^{j\frac{\pi}{6}} = 3\left(\frac{\sqrt{3}}{2} + \frac{1}{2}j\right) = \frac{3\sqrt{3}}{2} + \frac{3}{2}j$$

$$A = X + Y = \frac{2\sqrt{3}}{2} + \frac{6}{2}j = \sqrt{3} + 3j$$

$$|A|^2 = (\sqrt{3})^2 + (3)^2 = 3 + 9 = 12$$

$$\boxed{d = 12}$$