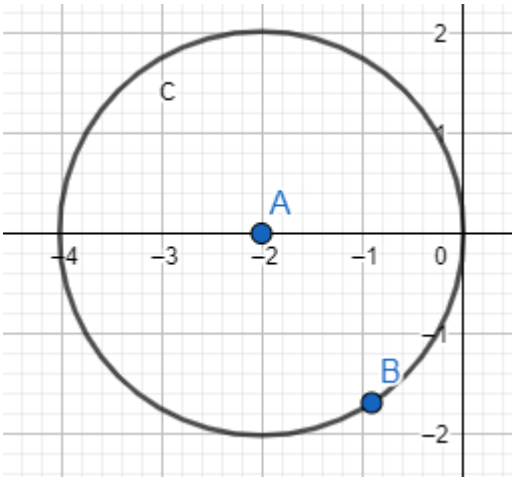
Resolver las siguientes integrales por medio del teorema de Cauchy.

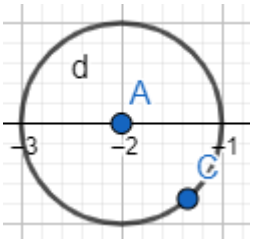
$$\oint \frac{z^2+1}{z-0.5} dz \ para\ C => \ |Z-(-2)| = 2$$

$$\int \frac{f(z)}{z-a} dz \qquad \mathbf{z-0.5=0; z=0.5}$$



$$\oint \frac{z^2+3}{\boldsymbol{z+2}} dz \ \ para\ C => |z-(-2)| = 1; \quad \mathbf{z+2=0\ despejando\ z=-2}$$

z-(-2)=0

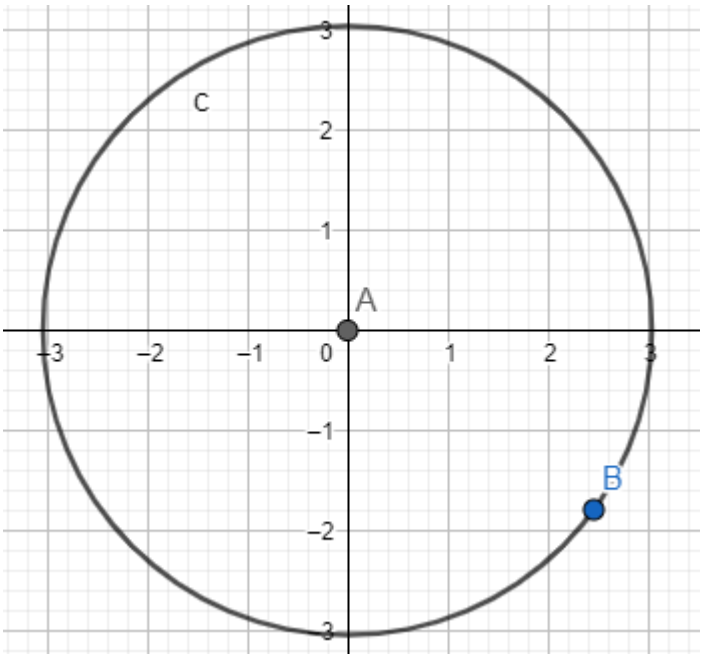


$$\int \frac{f(z)}{z-a} dz = 2\pi i f(z)$$

$$\oint \frac{\frac{2}{3} z dz}{\boldsymbol{z-\frac{2}{3}}} \ para\ \ a)\ z=|3|, \ \ b)\ |z-4|=2 \quad \boldsymbol{f(z)=\frac{2}{3}z}$$

$$\frac{1}{3}(3z-2) => z-\frac{2}{3}=0, despejando\ z=\frac{2}{3}$$

$a)\ z = |3|$



$b)\ |z - 4| = 2$ N/A