

Name Katey Godwin

Matr No 1818NA061035

Course MAT 101

Date 14th January 2020

Question 1

i Empty set: Sets are said to be empty when they have no element or member

ii Singleton set: A singleton set is a set consisting of only one element

Question 2

$$A = 2 + 7i$$

$$B = 9 - 5i$$

i $\text{Im}(A/B)$

Solu

$$(A/B) = \frac{2 + 7i}{9 - 5i}$$

$$= \frac{2 + 7i}{9 - 5i} \times \frac{9 + 5i}{9 + 5i}$$

$$= \frac{18 + 10i + 63i + (-35)}{81 + 45i - 45i - 25} = \frac{-17 + 73i}{56} = \frac{-17 + 73i}{56}$$

$$= \frac{18 + 35 + 10i + 63i}{81 - 25} = \frac{53 + 73i}{56}$$

$$\text{Im}(A/B) = \frac{73i}{56}$$

$\text{Re}(B-A)$

Solu

$$(B-A) = [(9 - 5i) - (2 + 7i)]$$

$$= 9 - 2 - 5i - 7i$$

$$= 7 - 12i$$

$$\text{Re}(B-A) = 7$$