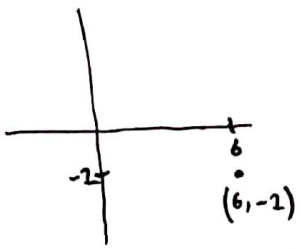
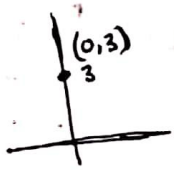
Ahmad Zaki Alawi
0331194000107

z

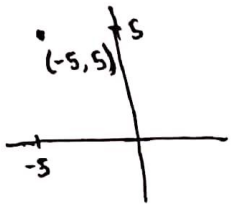
7. $z = 6 - 2i$
$(6, -2)$



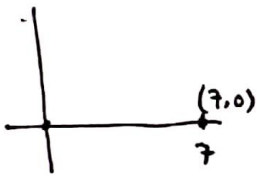
8. $z = 3i$
$(0, 3)$



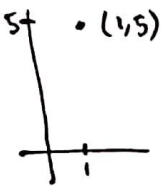
9. $z = -5 + 5i$
$(-5, 5)$



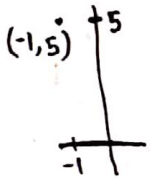
10. $z = 7$
$(7, 0)$



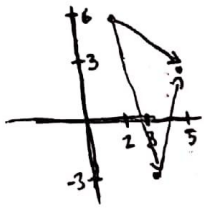
11. $z = 1 + 5i$
$(1, 5)$



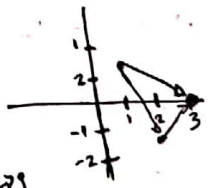
12. $z = 1 - 5i$
$(1, -5)$



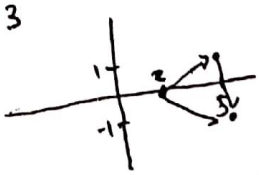
19. $(2 + 6i) + (3 - 3i)$
$(2 + 3) + (6i - 3i) = 5 + 3i$



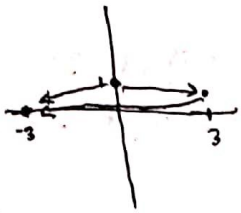
20. $(1 + \sqrt{2}i) + (2 - \sqrt{2}i)$
$(1 + 2) + (\sqrt{2}i - \sqrt{2}i) = 3 + 0i = 3$



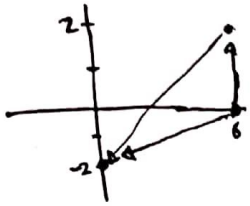
21. $(5 + i)(5 - i)$
$(5 - 5) + (i - (-i)) = 0 + 2i$



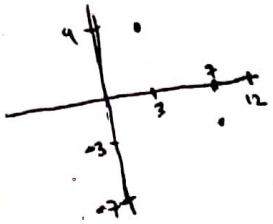
22. $i - (3 + i)$
$(0 - 3) + (i - i) = -3 + 0i = -3$



23. $6 - (-2i)$
$(6 - 0) + 0 - (-2i) = 6 + 2i$



24. $(12 - 7i) - (3 + 4i)$
~~$(12 - 7i) - (3 + 4i)$~~
$(12 - 3) - ((-7i) - (-4i)) = 9 - 3i$



$$A = \begin{bmatrix} 1+i & 1 \\ 2-2i & -3i \end{bmatrix} \qquad B = \begin{bmatrix} 1-i & 3i \\ -3 & -i \end{bmatrix}$$

53. $\det(A+B)$

$$A+B = \begin{bmatrix} (1+i)+(1-i) & 1+3i \\ (2-2i)+(-3) & (-3i)+(-i) \end{bmatrix}$$

$$A+B = \begin{bmatrix} 2 & 1+3i \\ -1-2i & -4i \end{bmatrix}$$

$$\det(A+B) = (2)(-4i) - (1+3i)(-1-2i) =$$

$$-8i - (5-5i) =$$

$$-8i - 5 + 5i$$

$$-5 - 3i$$

54. $\det(B)$

$$\begin{bmatrix} 1-i & 3i \\ -3 & -i \end{bmatrix}$$

$$\det(B) = ((1-i)(-i)) - ((3i)(-3))$$

$$(1-i)(-i) - (-9i)$$

$$1+i+9i$$

$$10i+1$$

55. $5AB$

$$AB = \begin{bmatrix} (1+i)(1-i)+1(-3) & (1+i)(3i)+(1)(-i) \\ (2-2i)(1-i)+(-3i)(-3) & (2-2i)(3i)+(-3i)(i) \end{bmatrix}$$

$$AB = \begin{bmatrix} -1 & -3+2i \\ 5i & 3+6i \end{bmatrix}$$

$$5AB = \begin{bmatrix} -5 & -15+10i \\ 25i & 15+30i \end{bmatrix}$$