

SNS COLLEGE OF TECHNOLOGY



(An Autonomous Institution)
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DEPARTMENT OF MATHEMATICS

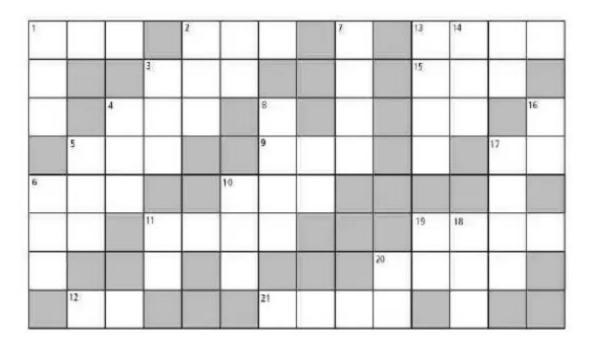
UNIT III COMPLEX DIFFERENTIATION

Puzzle: Complex Cross numbers

Complex Numbers

Simplify the clues to complete the cross number puzzle. Write answers in the form a + bi. If either a or b equals zero, do not enter a "0" in the puzzle. Simply omit it. Write each term, sign (if negative), and operation (addition or subtraction) in a separate box.

Example: 2 + 3i is filled in as $\begin{bmatrix} 2 \\ + \end{bmatrix}$, and -2 - 3i is filled in as $\begin{bmatrix} - \\ 2 \end{bmatrix}$ $\begin{bmatrix} - \\ 3i \end{bmatrix}$



ACROSS

1. (-6 + 7i) + (14 - 6i)

2. (6+2i)(3+6i)

3. (4+3i)(5+5i)

4. (8+2i)-(6-2i)

5. $\frac{9-3i}{1+i}$

6. (14 + 5i) + (-7 + 7i)

9. (16 + 11i) - (12 + 12i)

10. 5 - (-19 + 2i)

11. -5 + (4 + 3i)

12. (-3i)(7i)(-i)

13. negative signed solution of $x^2 + 18x + 90 = 0$

15. (4-2i)(6-5i)

17. −√−16

19. (6+i)(-4+2i)

20. (16+4i)-(44+5i)

21. (1+2i)(1+3i)

DOWN

1. positive signed solution of $x^2 - 16x + 100 = 0$

3. (8 + 12i) - (3 + 6i)

5. 10 - (7 - 5i)

6. $\frac{29+3i}{1+2i}$

7. (2+5i)-(12+4i)

8. (-7+3i)+(3-6i)

10. $(5+i)^2$

11. -√-1

13. (-4-2i)(2-3i)

14. -3(-3+6i)

16. $(i^2)(4i)$

17. $-2\left(\frac{3}{2} - \frac{1}{2}i\right)$

18. -2(-13+i)

19. (7i)(4i)

20. (2-2i)-(2+3i)

Answer Key

8	+	i		6	+	42 <i>i</i>		-		13	9	-	31
+			5	+	35/			10		15	-	32 <i>i</i>	
61		12	+	4i		'-		+		+	18/		16
	3	_	6i			4	_	i		81		17_	4i
7	+	121			24	-	2i					3	
-	5i		11 _	1	+	31				19 _	26	+	81
11/			i		10 <i>i</i>				20_	28	-	1	
	12	21/				21	5	+	5i	11	2/		