

Step Academy official

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STUDENT NAME	
PAPER CODE	81222
TIME ALLOWED	
Paper Date	



CLASS	1st Year
SUBJECT	Mathematics
TOTAL MARKS	
Paper Type	

Q1. write the answers of following questions.

- 1 . Evaluate the following: i^{31}
- 2 . Evaluate the following: $(-i)^6$
- 3 . Evaluate the following: $(-1)^{-13/2}$
- 4 . Evaluate the following: $i^{23} + i^{58} + i^{21}$
- 5 . Write the following complex numbers in the form $x + iy$. $(3 + 2i) + (2 + 4i)$
- 6 . Write the following complex numbers in the form $x + iy$. $(4 + 3i) - (2 + 5i)$
- 7 . Write the following complex numbers in the form $x + iy$. $(4 + 7i) - (4 - 7i)$
- 8 . Write the following complex numbers in the form $x + iy$. $(2 + 5i) - (2 - 5i)$
- 9 . Write the following complex numbers in the form $x + iy$. $(3 + 2i)(4 - 3i)$
- 10 . Write the following complex numbers in the form $x + iy$. $(3, 2) \div (3, -1)$
- 11 . Write the following complex numbers in the form $x + iy$. $(1 + i)(1 - i)(2 + i)$
- 12 . Write the following complex numbers in the form $x + iy$. $1/2 + 3i$
- 13 . Simplify the following: $(2 + i)(3 - 2i)/(1 + i)$
- 14 . Simplify the following: $(1 + i)/((2 + i)^2)$
- 15 . Simplify the following: $1/(3 + i) - 1/(3 - i)$
- 16 . Simplify the following: $(1 + i)^{-2} + (1 - i)^{-2}$
- 17 . Simplify the following: $(2 + i)^2 + (7 - 4i)/(2 + i)$
- 18 . Find the values of the real numbers x and y in each of the following: $(2 + 3i)x + (1 + 3i)y + 2 = 0$
- 19 . Find the values of the real numbers x and y in each of the following: $x/(1 + i) + y/(1 - 2i) = 1$
- 20 . Find the values of the real numbers x and y in each of the following: $x/(2 + i) = (1 - 5i)/(3 - 2i) + y/(2 - i)$
- 21 . Find the values of the real numbers x and y in each of the following: $x(1 + i)^2 + y(2 - i)^2 = 3 + 10i$

22 . Find the complex number z if $4z-3z=(1-18i)/(2-i)$

23 . Find the conjugate of the following complex numbers: $4-3i$

24 . Find the conjugate of the following complex numbers: $3i+8$

