FIRST ASSESMENT TEST, AUGUST 2020

MATHEMATICS

CLASS: XI **MARKS: 20**

TIME: 30 MIN

Choose the correct option for the following questions from 1 to 4

1. The range of x for which the inequation $x^2 - 4x + 4 \geq 0$

i) $(-\infty,-2)$ ii) $(-\infty,\infty)$ iii) $(2,\infty)$ iv) $(4,\infty)$

2. If $(3-4i)\,(x+iy) = 1+0i$ then value of x and y are

i) $x = \frac{3}{25}, y = \frac{4}{25}$ ii) $x = \frac{4}{25}, y = \frac{7}{25}$ iii) $x = \frac{1}{3}, y = \frac{1}{4}$ iv) $x = 3, y = 4$

3. If α and β are the roots of the equation $2x^2 - 5x + k = 0$. Also 2α+ β=1, then value of k is

i) 6 ii) -12 iii) -8 iv) 10

4. The value of $\frac{1}{i} + \frac{1}{i^2} + \frac{1}{i^3} + \frac{1}{i^4}$ is

i) $-2i$ ii) 0 iii) i iv) 1 (4X1=4)

5. Find the square root of $1 + 2i$ (4)

6. If α and β are the roots of the equation $x^2 - 2x + 3 = 0$. Form an equation

whose roots are α+2 and β+2 (4)

7. Write the complex number in $a + ib$ form $\frac{1+7i}{(2-i)^2}$ (4)

8. Find the condition that one root of $ax^2 + bx + c = 0$ may be four times the other

(4)