Complex Numbers Mixed Practice 2 Name _____

1. $\sqrt{-45}+\sqrt{-5}$	2. i^{90}	3. i^{247}
4. $i^8 \cdot i^9 \cdot i^{10}$	5. $2i^9 \cdot 3i^3$	6. $i^2 + i^2$
7. Solve: $x^2+64=0$	8. $(10+3i)+(5-8i)$	9. $(-8+5i)-(5-7i)$
10. $(4+3i)(3-4i)$	11. $i^3 + i(10-i)$	12. $(3-4i)^2+7$

13. $\dfrac{4+i}{2-3i}$	14. $\dfrac{7+2i}{4i}$	15. Solve: $x^2+29=10x$
16. Describe the roots of $x^2+6x=-20$	17. Describe the roots of $x-\dfrac{12}{x}=8$	18. Describe the roots of $x^2+x=-\dfrac{1}{4}$
19. The roots of $x^2+2x+k=0$ are equal when k = ?	20. The roots of $x^2+kx+3=0$ are real when k = ?	21. The roots of $x^2+bx+8=0$ are imaginary when b = ?