D1 Algebra 3 – 4 Homework

**All work must be done on a separate sheet of paper**

1. Write each of the following expressions in the form a + bi
	1. $-18-\sqrt{-25}$
	2. $\frac{2\pm -16}{2}$
	3. $5+\sqrt{-6}$
2. Explain why $i^{3}=-1$. What does $i^{4}$ equal?
3. If $f\left(x\right)=x^{2}+7x-9$
	1. F(-3) b. f(i) c. f(-3 + i)
4. Is 5 + 2i a solution to $x^{2}-10x=-29$
5. Is $(x-5)^{2}=(5-x)^{2}$? Explain why or why not
6. Calculate the value of each expression below
	1. $\sqrt{-49}$ b. $\sqrt{-2}$ c. $(4i)^{2}$ d. $(3i)^{3}$

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