### Lesson 12 Practice Problems

1. Write each expression in the form $a+bi$, where $a$ and $b$ are real numbers. You may plot the numbers in the complex plane as a guide.
	1. $2⋅\sqrt{-4}$
	2. $3i⋅2i$
	3. $i^{4}$
	4. $4−3\sqrt{-1}$
* 
1. Which expression is equivalent to $\left(3+9i\right)−\left(5−3i\right)$?
	1. $-2−12i$
	2. $-2+12i$
	3. $15+27i$
	4. $15−27i$
2. What are $a$ and $b$ when you write $\sqrt{-16}$ in the form $a+bi$, where $a$ and $b$ are real numbers?
	1. $a=0$, $b=-4$
	2. $a=0$, $b=4$
	3. $a=-4$, $b=0$
	4. $a=4$, $b=0$
3. Fill in the boxes to make a true statement:
$\left(−3i\right)−\left(15+i\right)=7−12i$
4. Plot each number on the real number line, or explain why the number is not on the real number line.
	1. $\sqrt{16}$
	2. $-\sqrt{16}$
	3. $\sqrt{-16}$
	4. $56^{1/2}$
	5. $-56^{1/2}$
	6. $\left(-56\right)^{1/2}$
* 
* (From Unit 3, Lesson 10.)
1. Which expression is equivalent to $\sqrt{-4}$?
	1. $-2i$
	2. $-4i$
	3. $2i$
	4. $4i$
* (From Unit 3, Lesson 11.)



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