### Lesson 14 Practice Problems

1. Select **all** expressions that are equivalent to $8+16i$.
	1. $2\left(4+8i\right)$
	2. $2i\left(8−4i\right)$
	3. $4\left(2i−4\right)$
	4. $4i\left(4−2i\right)$
	5. $-2i\left(-8−4i\right)$
2. Which expression is equivalent to $\left(-4+3i\right)\left(2−7i\right)$?
	1. $-29−22i$
	2. $-29+34i$
	3. $13−22i$
	4. $13+34i$
3. Match the equivalent expressions.
	1. $i^{2}\left(3+i\right)$
	2. $-4i⋅5i$
	3. $5i\left(4−3i\right)$
	4. $\left(1+2i\right)\left(-1+3i\right)$
	5. $\left(3+5i\right)−\left(10+4i\right)$
	6. $\left(2+4i\right)\left(2−4i\right)$
	7. $\left(1−4i\right)+\left(-4+3i\right)$
	8. $\left(-6+12i\right)−\left(-21−8i\right)$
4. Write each expression in $a+bi$ form.
	1. $\left(-8+3i\right)−\left(2+5i\right)$
	2. $7i\left(4−i\right)$
	3. $\left(3i\right)^{3}$
	4. $\left(3+5i\right)\left(4+3i\right)$
	5. $\left(3i\right)\left(-2i\right)\left(4i\right)$
5. Here is a method for solving the equation $\sqrt{5+x}+10=6$. Does the method produce the correct solution to the equation? Explain how you know.
* $\begin{matrix}\sqrt{5+x}+10&=6&\\\sqrt{5+x}&=-4& (after subtracting 10 from each side)\\5+x&=16& (after squaring both sides)\\x&=11&\end{matrix}$
* (From Unit 3, Lesson 7.)
1. Write each expression in the form $a+bi$, where $a$ and $b$ are real numbers.
	1. $4\left(3−i\right)$
	2. $\left(4+2i\right)+\left(8−2i\right)$
	3. $\left(1+3i\right)\left(4+i\right)$
	4. $i\left(3+5i\right)$
	5. $2i⋅7i$
* (From Unit 3, Lesson 13.)



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