### Lesson 6 Practice Problems

1. Classify each function as odd, even, or neither.
	1. $f\left(x\right)=3x^{4}+3$
	2. $f\left(x\right)=x^{3}−4x$
	3. $f\left(x\right)=\frac{1}{x^{2}+1}$
	4. $f\left(x\right)=x^{2}+x−3$
2. Here is a graph of a function $f$ for $0\leq x\leq 5$.
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	1. The function $g$ is even and takes the same values as $f$ for $0\leq x\leq 5$. Sketch a graph of $g$.
	2. The function $h$ is odd and takes the same values as $f$ for $0\leq x\leq 5$. Sketch a graph of $h$.
1. The linear function $f$ is given by $f\left(x\right)=mx+b$. If $f$ is even, what can you conclude about $m$ and $b$?
2. Here are the graphs of $y=f\left(x\right)$ and $y=f\left(x−1\right)$ for a function $f$.
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* Which graph corresponds to each equation? Explain how you know.
* (From Unit 5, Lesson 2.)
1. Write an expression for two of the graphs in terms of $f\left(x\right)$.
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* (From Unit 5, Lesson 3.)
1. Here is a graph of the function $f$ given by $f\left(x\right)=x^{3}$.
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	1. What happens if you reflect the graph across the $x$-axis and then across the $y$-axis?
	2. Is $f$ even, odd, or neither?
* (From Unit 5, Lesson 5.)



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