### Lesson 7 Practice Problems

1. Here is a graph of $f\left(x\right)=e^{x}$ and a graph of $g$, which is a transformation of $f$. Write an equation for the function $g$.
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1. Describe the transformation that takes the graph of function $f$ to the graph of function $g$.
	1. $f\left(x\right)=e^{x}$ and $g\left(x\right)=-e^{x}+2.7$
	2. $f\left(x\right)=x^{5}$ and $g\left(x\right)=\left(-x+3.1\right)^{5}+1$
	3. $f\left(x\right)=\left|x\right|$ and $g\left(x\right)=\left|x\right|−26$
	4. $f\left(x\right)=\sqrt{x}$ and $g\left(x\right)=-\sqrt{x−0.004}$
	5. Write an equation whose graph is a parabola with vertex at $\left(1,4\right)$ and which opens upward.
	6. Write an equation whose graph is a parabola with vertex at $\left(2,-3\right)$ and which opens downward.
2. Describe how to move the graph so that it better matches the data.
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* (From Unit 5, Lesson 1.)
1. Here is a graph of $y=f\left(x\right)$ for $-10\leq x\leq 0$. Sketch $f$ for $0\leq x\leq 10$ if:
	1. $f$ is even
	2. $f$ is odd
	3. $f$ is neither even nor odd
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* (From Unit 5, Lesson 6.)
1. Here are graphs of functions $f$ and $g$.
* Which sequences of transformations take the graph of $f$ to the graph of $g$? Select **all** that apply.
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	1. reflection over the $y$-axis, then translation up by 2
	2. reflection over the $x$-axis, then translation up by 2
	3. translation up 2, then reflection over the $y$-axis
	4. translation up 2, then reflection over the $x$-axis
	5. translation up 2, and then translation left by 5
* (From Unit 5, Lesson 4.)



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