### Lesson 11 Practice Problems

1. What are the points of intersection between the graphs of the functions $f\left(x\right)=x^{2}\left(x+1\right)$ and $g\left(x\right)=x+1$?
2. Select **all** the points of intersection between the graphs of the functions $f\left(x\right)=\left(x+5\right)\left(x−2\right)$ and $g\left(x\right)=\left(2x+1\right)\left(x−2\right)$.
	1. $\left(-5,0\right)$
	2. $\left(-\frac{1}{2},0\right)$
	3. $\left(-2,-12\right)$
	4. $\left(2,0\right)$
	5. $\left(4,18\right)$
	6. $\left(5,30\right)$
3. What are the solutions to the equation $\left(x−3\right)\left(x+5\right)=-15$?
4. What are the $x$-intercepts of the graph of $y=\left(5x+7\right)\left(2x−1\right)\left(x−4\right)$?
	1. $-\frac{7}{5},-\frac{1}{2},4$
	2. $\frac{5}{7},\frac{1}{2},4$
	3. $-\frac{7}{5},\frac{1}{2},4$
	4. $\frac{5}{7},2,4$
* (From Unit 2, Lesson 5.)
1. Which polynomial function’s graph is shown here?
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	1. $f\left(x\right)=\left(x+1\right)\left(x+2\right)\left(x+4\right)$
	2. $f\left(x\right)=\left(x+1\right)\left(x−2\right)\left(x+4\right)$
	3. $f\left(x\right)=\left(x−1\right)\left(x+2\right)\left(x−4\right)$
	4. $f\left(x\right)=\left(x−1\right)\left(x−2\right)\left(x−4\right)$
* (From Unit 2, Lesson 7.)
1. Draw a rough sketch of the graph of $g\left(x\right)=-x^{2}\left(x+2\right)$.
* (From Unit 2, Lesson 10.)
1. The graph of a polynomial function $f$ is shown.
* 
	1. Is the degree of the polynomial odd or even? Explain how you know.
	2. What is the constant term of the polynomial?
* (From Unit 2, Lesson 9.)



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