### Lesson 6 Practice Problems

1. $f\left(x\right)=\left(x+3\right)\left(x−4\right)$ and $g\left(x\right)=\frac{1}{3}\left(x+3\right)\left(x−4\right)$. The graphs of each are shown here.
* 
	1. Which graph represents which polynomial function? Explain how you know.
1. For each polynomial function, rewrite the polynomial in standard form. Then state its degree and constant term.
	1. $f\left(x\right)=\left(x+1\right)\left(x+3\right)\left(x−4\right)$
	2. $g\left(x\right)=3\left(x+1\right)\left(x+3\right)\left(x−4\right)$
2. Tyler incorrectly says that the constant term of $\left(x+4\right)\left(x−4\right)$ is zero.
	1. What is the correct constant term?
	2. What is Tyler’s mistake? Explain your reasoning.
3. Which of these standard form equations is equivalent to $\left(x+1\right)\left(x−2\right)\left(x+4\right)\left(3x+7\right)$?
	1. $x^{4}+10x^{3}+15x^{2}−50x−56$
	2. $x^{4}+10x^{3}+15x^{2}−50x+56$
	3. $3x^{4}+16x^{3}+3x^{2}−66x−56$
	4. $3x^{4}+16x^{3}+3x^{2}−66x+56$
4. Select **all** polynomial expressions that are equivalent to $5x^{3}+7x−4x^{2}+5$.
	1. $13x^{5}$
	2. $5x^{3}−4x^{2}+7x+5$
	3. $5x^{3}+4x⋅2+7x+5$
	4. $5+4x−7x^{2}+5x^{3}$
	5. $5+7x−4x^{2}+5x^{3}$
* (From Unit 2, Lesson 2.)
1. Select **all** the points which are relative minimums of this graph of a polynomial function.
* 
	1. Point $A$
	2. Point $B$
	3. Point $C$
	4. Point $D$
	5. Point $E$
	6. Point $F$
	7. Point $G$
* (From Unit 2, Lesson 3.)
1. What are the $x$-intercepts of the graph of $y=\left(3x+8\right)\left(5x−3\right)\left(x−1\right)$?
* (From Unit 2, Lesson 5.)



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