### Lesson 7 Practice Problems

1. Diego wrote $f\left(x\right)=\left(x+2\right)\left(x−4\right)$ as an example of a function whose graph has $x$-intercepts at $x=-4,2$. What was his mistake?
2. Write a possible equation for a polynomial whose graph has horizontal intercepts at $x=2,-\frac{1}{2},-3$.
3. Which polynomial function’s graph is shown here?
* 
	1. $f\left(x\right)=\left(x+1\right)\left(x+3\right)\left(x+4\right)$
	2. $f\left(x\right)=\left(x+1\right)\left(x−3\right)\left(x+4\right)$
	3. $f\left(x\right)=\left(x−1\right)\left(x+3\right)\left(x−4\right)$
	4. $f\left(x\right)=\left(x−1\right)\left(x−3\right)\left(x−4\right)$
1. Which expression is equivalent to $\left(3x+2\right)\left(3x−5\right)$?
	1. $6x−3$
	2. $9x^{2}−10$
	3. $9x^{2}−3x−10$
	4. $9x^{2}−9x−10$
* (From Unit 2, Lesson 4.)
1. What is the value of $6\left(x−2\right)\left(x−3\right)+4\left(x−2\right)\left(x−5\right)$ when $x=-3$?
* (From Unit 2, Lesson 5.)
1. Match each polynomial function with its leading coefficient.
	1. $P\left(x\right)=\left(x+2\right)\left(2x−3\right)\left(4x+7\right)$
	2. $P\left(x\right)=\frac{1}{2}\left(x−2\right)\left(2x−3\right)\left(4x+7\right)$
	3. $P\left(x\right)=5\left(x−2\right)\left(2x−3\right)\left(4x+7\right)$
	4. $P\left(x\right)=-\left(x−2\right)\left(2x−3\right)\left(4x+7\right)$
	5. $P\left(x\right)=\frac{1}{4}\left(x+2\right)\left(2x−3\right)\left(4x+7\right)$
	6. 40
	7. 8
	8. 4
	9. 2
	10. -8
* (From Unit 2, Lesson 6.)



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