### Lesson 4 Practice Problems

1. Here are two expressions whose product is a new expression, $A$.
* $\left(5x^{4}+x^{3}\right)\left(4x^{}−6\right)=A$
* Andre says that any real number can go in either of the boxes and $A$ will be a polynomial. Is he correct? Explain your reasoning.
1. Lin divides the polynomial $2x^{2}−4x+1$ by 4 and gets $0.5x^{2}−x+0.25$. Is $0.5x^{2}−x+0.25$ a polynomial? Explain your thinking.
2. What is the result when any 2 integers are multiplied?
	1. a positive integer
	2. a negative integer
	3. an integer
	4. an even number
3. Clare wants to make an open-top box by cutting out corners of a 30 inch by 25 inch piece of poster board and then folding up the sides. The volume $V\left(x\right)$ in cubic inches of the open-top box is a function of the side length $x$ in inches of the square cutouts.
	1. Write an expression for $V\left(x\right)$.
	2. What is a reasonable domain for $V$ in this context?
* (From Unit 2, Lesson 1.)
1. Identify the degree, leading coefficient, and constant value of each of the following polynomials.
	1. $f\left(x\right)=2x^{5}−8x^{2}−x−6$
	2. $h\left(x\right)=x^{3}−7x^{2}−x+2$
	3. $g\left(x\right)=5x^{2}−4x^{3}+2x+5.4$
* (From Unit 2, Lesson 3.)
1. Which point is a relative minimum?
* 
	1. A
	2. B
	3. C
	4. D
* (From Unit 2, Lesson 3.)



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