### Lesson 10 Practice Problems

1. To write in factored form, Diego first listed pairs of factors of -10.
	1. Use what Diego started to complete the rewriting.
	2. How did you know you’ve found the right pair of expressions? What did you look for when trying out different possibilities?
2. To rewrite in factored form, Jada listed some pairs of factors of :
* Use what Jada started to rewrite in factored form.
1. Rewrite each quadratic expression in factored form. Then, use the zero product property to solve the equation.
2. Han is solving the equation .
* Here is his work:
* Describe Han’s mistake. Then, find the correct solutions to the equation.
1. A picture is 10 inches wide by 15 inches long. The area of the picture, including a frame that is inch thick, can be modeled by the function .
	1. Use function notation to write a statement that means: the area of the picture, including a frame that is 2 inches thick, is 266 square inches.
	2. What is the total area if the picture has a frame that is 4 inches thick?
* (From Unit 7, Lesson 1.)
1. To solve the equation , Elena uses technology to graph the function . She finds that the graph crosses the -axis at and .
	1. What is the name for the points where the graph of a function crosses the -axis?
	2. Use a calculator to compute and .
	3. Explain why 1.919 and 5.081 are approximate solutions to the equation and are not exact solutions.
* (From Unit 7, Lesson 2.)
1. Which equation shows a next step in solving  that will lead to the correct solutions?
* (From Unit 7, Lesson 3.)
1. Here is a description of the temperature at a certain location yesterday.
* “It started out cool in the morning, but then the temperature increased until noon. It stayed the same for a while, until it suddenly dropped quickly! It got colder than it was in the morning, and after that, it was cold for the rest of the day.”

Sketch a graph of the temperature as a function of time.
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* (From Unit 4, Lesson 8.)
1. *Technology required*. The number of people, , who watch a weekly TV show is modeled by the equation , where is the number of weeks since the show first aired.
	1. How many people watched the show the first time it aired? Explain how you know.
	2. Use technology to graph the equation.
	3. On which week does the show first get an audience of more than 500,000 people?
* (From Unit 5, Lesson 9.)



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