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| **Lawn Mowing Business- 6.EE.7** | |
| **Domain** | **Expressions and Equations** |
| **Cluster** | **Reason about and solve one-variable equations and inequalities.** |
| **Standard(s)** | **6.EE.7** Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q and x are all nonnegative rational numbers.  **6.EE.5** Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true. **6.EE.6** Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set. |
| **Materials** | Activity sheet |
| **Task** | **Lawn Mowing Business**  Elijah is mowing lawns during the summer to earn money. He charges *X* dollars per hour and works *Y* hours per day.  Part 1:  Write an equation to find the amount of dollars (*D*) that he earns each day in terms of his hourly rate (*X*) and the amount of time that he works (*Y*).  Part 2:  If Elijah charges $13.50 per hour, make a table to explore how much will Elijah be paid if he works for: 1 hour, 2 hours, 3 hours, 4 hours, 5 hours, and 10 hours,  Part 3:  For every 3 hours that Elijah mows the lawn he has to spend $5.76 on supplies like gasoline, bags, and drinks. Write and solve an equation to show how much Elijah spends on supplies each hour. How much money will he spend on supplies if he works for: 1 hour, 2 hours, 3 hours, 4 hours, 5 hours, and 10 hours?  Part 4: If Elijah works between 240 and 249 hours during the summer how much money will he earn? Write and solve two equations: one for the most amount and one for the least of money he could have earned.  Part 5: Write an explanation about how you solved Part 4. |

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| **Rubric** | | |
| **Level I** | 1. **Level II** | **Level III** |
| Developing Proficiency   * Student uses inappropriate solution strategy and does not get the correct answer. | Not Yet Proficient   * There are one or two errors. | Proficient in Performance   * Accurately solves problem. * Part 1: *D* =  *X* x *Y* * Part 2: Elijah is paid $13.50 per hour. 1 hour: $13.50; 2 hours; $27; 3 hours: $40.50; 4 hours: $54; 5 hours: $67.50; 10 hours: $135. * Part 3: $5.76 /3 hours = $1.92 per hour. 2 hours: $3.84; 3 hours: $5.76; 4 hours: $7.68; 5 hours: $9.60; 10 hours: $19.20. * Part 4: 240 hours: ($13.50 x 240) – ($1.92 x 240) = $11.58 x 240 = $2,779.20; 250 hours: ($13.50 x 250) – ($1.92 x 250) = $11.58 x 250 = $2,895.00. * Part 5: The explanation is clear and accurate. |

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| **Standards for Mathematical Practice** |
| **1. Makes sense and perseveres in solving problems.** |
| **2. Reasons abstractly and quantitatively.** |
| 3. Constructs viable arguments and critiques the reasoning of others. |
| **4. Models with mathematics.** |
| 5. Uses appropriate tools strategically. |
| **6. Attends to precision.** |
| 7. Looks for and makes use of structure. |
| 8. Looks for and expresses regularity in repeated reasoning. |

**Lawn Mowing Business**

Elijah is mowing lawns during the summer to earn money. He charges *X* dollars per hour and works *Y* hours per day.

Part 1:

Write an equation to find the amount of dollars (*D*) that he earns each day in terms of his hourly rate (*X*) and the amount of time that he works (*Y*).

Part 2:

If Elijah charges $13.50 per hour, make a table to explore how much would Elijah be paid if he works for: 1 hour, 2 hours, 3 hours, 4 hours, 5 hours, and 10 hours,

Part 3:

For every 3 hours that Elijah mows the lawn he has to spend $5.76 on supplies like gasoline, bags, and drinks. Write and solve an equation to show how much Elijah spends on supplies each hour. How much money will he spend on supplies if he works for: 1 hour, 2 hours, 3 hours, 4 hours, 5 hours, and 10 hours?

Part 4: If Elijah works between 240 and 249 hours during the summer how much money will he earn? Write and solve two equations: one for the most amount and one for the least of money he could have earned.

Part 5:  
Write an explanation about how you solved Part 4.