

**7<sup>th</sup> grade****Task 1****Lawn Mowing**

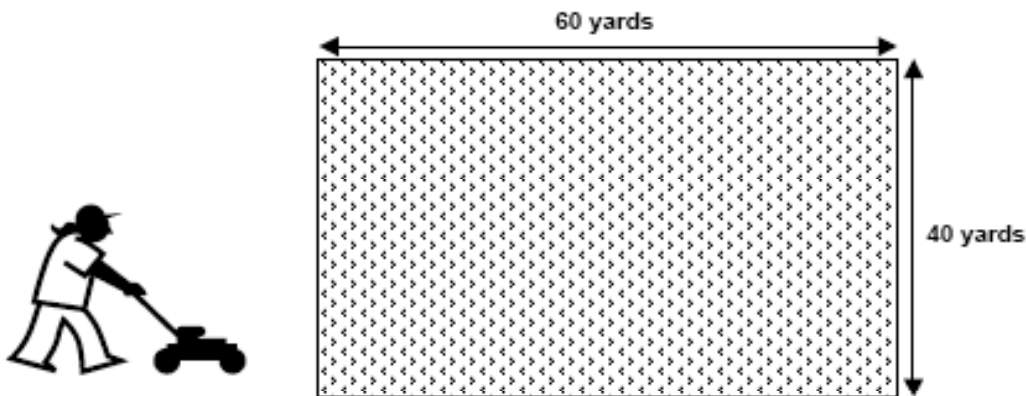
<b>Student Task</b>	Use proportional reasoning and ratios to solve a problem involving lawn cutting.
<b>Core Idea 4 Geometry and Measurement</b>	<b>Analyze characteristics and properties of two-dimensional geometric shapes; develop mathematical arguments about geometric relationships and apply techniques, tools, and formulas to determine measurements.</b> <ul style="list-style-type: none"><li>• Solve problems involving similarity and scale factors, using proportional reasoning</li><li>• Use representations to model and interpret physical, social and mathematical phenomena</li></ul>

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## Lawn Mowing

This problem gives you the chance to:

- solve a practical problem involving ratios
  - use proportional reasoning
- 



Dan and Alan take turns cutting the grass.  
Their lawn is 60 yards long and 40 yards wide.

1. What is the area of the yard? \_\_\_\_\_ square yards

Dan takes an hour to cut the lawn using an old mower.

2. How many square yards does Dan cut in a minute?  
Show your work. \_\_\_\_\_

Alan only takes 40 minutes using a new mower.

3. How many square yards does Alan cut in a minute?  
Show your calculation. \_\_\_\_\_

4. One day they both cut the grass together.  
How long do they take?  
Show how you figured it out. \_\_\_\_\_

Lawn Mowing	Grade 7	Rubric	
The core elements of performance required by this task are: <ul style="list-style-type: none"> <li>• solve a practical problem involving ratios</li> <li>• use proportional reasoning</li> </ul>			
Based on these, credit for specific aspects of performance should be assigned as follows		points	section points
1. Gives correct answer: <b>2,400</b> square yards		1	1
2. Gives correct answer: <b>40</b> square yards per minute  Shows work such as: $(60 \times 40) \div 60$		1  1ft	2
3. Gives correct answer: <b>60</b> square yards per minute  Shows work such as: $(60 \times 40) \div 40$		1  1ft	2
4. Gives correct answer: <b>24 minutes</b>  Shows correct work such as: In one minute together they mow $40 + 60 = 100$ square yards $(60 \times 40) \div 100$		1  2ft	3
<b>Total Points</b>			<b>8</b>