

Katya wants to earn \$1500 this summer by doing yard work. She plans on working 125 hours over the summer.

- a. Based on her plan, what is the rate, in dollars per hour, that Katya must charge customers for doing yard work to earn \$1500 over the summer? Show or explain how you got your answer.

Katya also wants to enroll in a summer class at a local college. As a result, she will have to work 50 hours less than the total number of hours she had originally planned.

- b. What is the rate, in dollars per hour, that Katya must charge customers for doing yard work to still earn \$1500? Show or explain how you got your answer.
- c. Write an equation that represents the relationship between  $x$ , the number of hours Katya will have to work, and  $y$ , the rate she must charge customers to earn \$1500.
- d. Explain how a change in  $x$ , the number of hours Katya will have to work, affects  $y$ , the rate she will have to charge customers to earn \$1500, in your equation from part (c).