

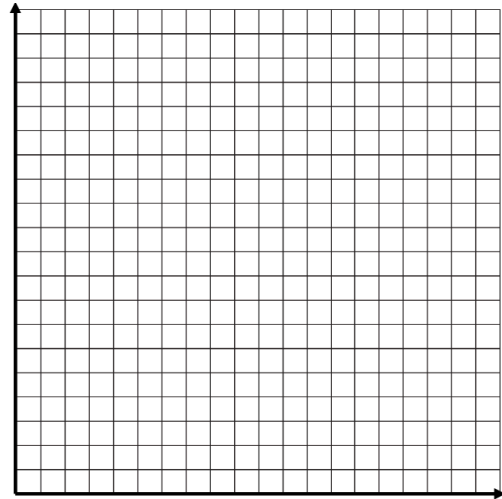
Constructing Models

8. *Julio paves a driveway in 7 hours. Zach does the same job in 9. How long would it take them complete pave driveway together?*

9-11) *It cost Blanca \$1500 to start her backpack making business. It also cost her \$10 to make each backpack. Write an equation that relates the Cost, C, to the number of Backpacks, b. Then graph your equation for a domain [0, 100] and offer three points that serve as solutions to your equation.*

9. $C(b) =$ _____

10.



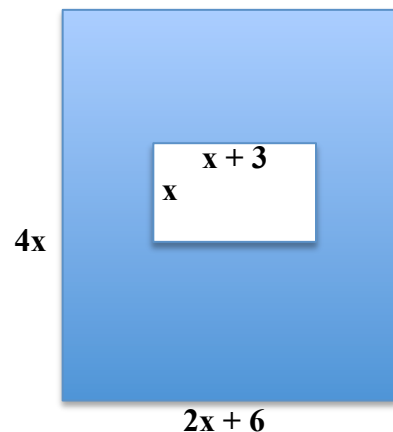
11.

b	C(b)

Critical Thinking

12. For the diagram below, the smaller interior rectangle has a length that is 3 units longer than its height. The larger rectangle is four times taller than the smaller. Its length is 6 units longer than twice the height of the smaller, as shown. Show that the ratio of the larger area to the smaller will always be 8.

$$\frac{\text{Larger Area}}{\text{Smaller Area}} = \quad = \quad = 8$$



Communicate Reasoning

13. Kayla noticed that for all work problems of the form, $\frac{x}{a} + \frac{x}{b} = 1$, the solution is always the quotient of the product of a & b, and the sum of a & b: $x = \frac{ab}{a+b}$

Explain why you agree or disagree with Kayla.

Creativity

14. Write the equation of a logarithmic function that has an asymptote of $x = 3$ and an x-intercept of $(0, 4)$. Then graph your equation.

$f(x) =$ _____

