## Ready

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Solve the following equations for the unknown variable.

- 1. 4(x+3) = 1
- 2. q 13 = -13

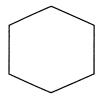
3. 21s = 3

- 4.  $\frac{7f}{11} = \frac{7}{11}$
- 5.  $5q 7 = \frac{2}{3}$

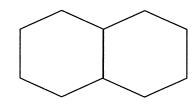
6. 5x - (3x + 2) = 1

## Set

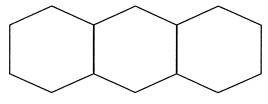
For the growing pattern below, each line segment is one unit in length.



Step 1



Step 2



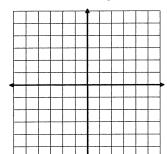
Step 3

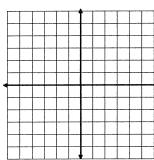
- 7. How much total **perimeter** in Step 5? Step 6? (Remember to focus on the perimeter.)
- 8. How can you determine the amount of perimeter in Step 25?
- 9. Write a rule to predict the total amount of perimeter for any step. Show how your rule relates to the pattern.
- 10. Marsha also solved this problem and came up with following expression: 1 + 5n -(n-1). How does each piece of her expression show up in the pattern?
- 11. Tyler came up with the expression 6n 2(n-1). How does each piece of his expression show up in the pattern?

Go

For problems 12 and 13, the y-intercept and the slope of a line are given. Graph the line on the coordinate axes, clearly labeling the slope and y-intercept.

12. (0, 2); 
$$m = \frac{3}{4}$$



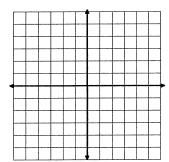


The equations below are represented in the above graphs. Explain how the slope and y-intercept show up in both the graph and algebraic representations.

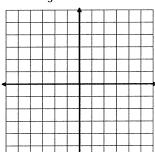
$$y = \frac{3}{4}x + 2$$

$$y = 4x - 3$$

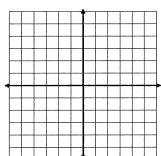
For problems 14-16, graph the following equations on the provided coordinate axes.



15. 
$$y = \frac{1}{3}x + 2$$



16. 
$$y = -3x + 5$$



Need Help? Check out these related videos:

http://www.khanacademy.org/math/algebra/solving-linear-equations/v/solving-equations-1

 $\underline{http://www.khanacademy.org/math/algebra/linear-equations-and-inequalitie/v/graphing-a-line-in-slope-intercept-form}$ 

http://www.youtube.com/watch?v=WXzpisUh0AU

