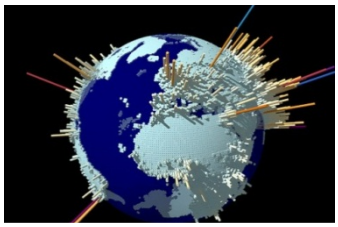
## Ready, Set, Go!



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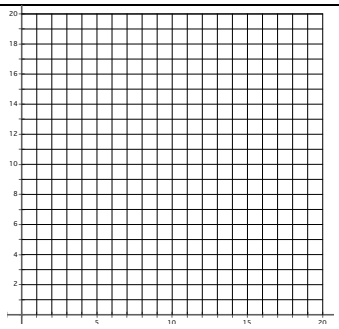
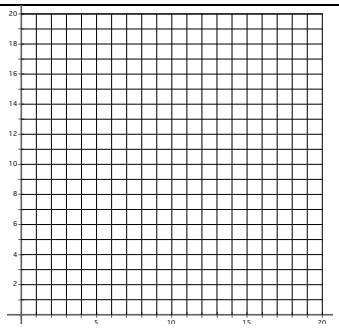
### Ready

Topic: Comparing Linear and Exponential Models

**Compare different characteristics of each type of function by filling in the cells of each table as completely as possible.**

| | $y = 4 + 3x$ | $y = 4(3^x)$ |
|---|---|---|
| 1. Type of growth | | |
| 2. What kind of sequence corresponds to each model? | | |
| 3. Make a table of values | x \| y | x \| y |
| 4. Find the rate of change | | |
| 5. Graph each equation.<br>Compare the graphs.<br>What is the same?<br>What is different? |  |  |
| 6. Find the y-intercept for each function. | | |

7. Find the y-intercepts for the following equations

a) $y = 3x$

b) $y = 3^x$

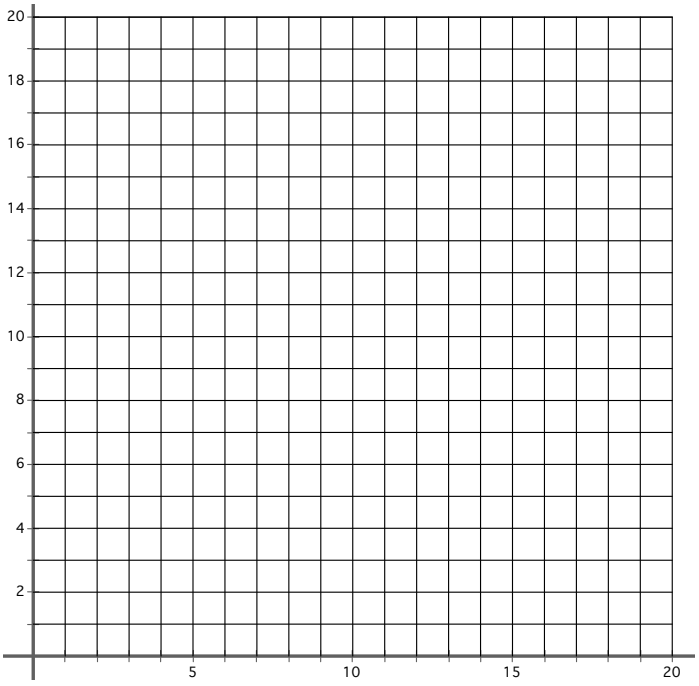
8. Explain how you can find the y-intercept of a linear equation and how that is different from finding the y-intercept of a geometric equation.

## Set

Topic: Finding patterns

**Use the picture below to answer questions 9-12**


9. Graph.




10. Table

| Stage | # of small triangles |
|---|---|
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| ⋮ | |
| 10 | |

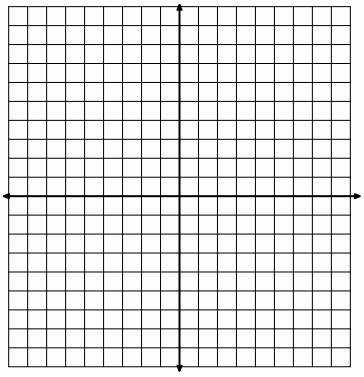
11. Write an explicit function to describe the pattern

## Go

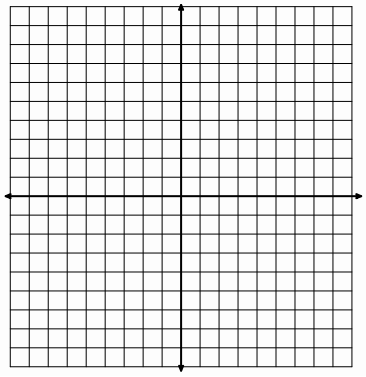
Topic: Solving systems through graphing.

**Find the solution of the systems of equations by graphing.**

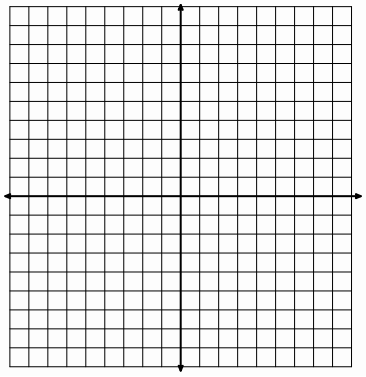
12. $\begin{cases} y = -x \\ y = 3x - 4 \end{cases}$



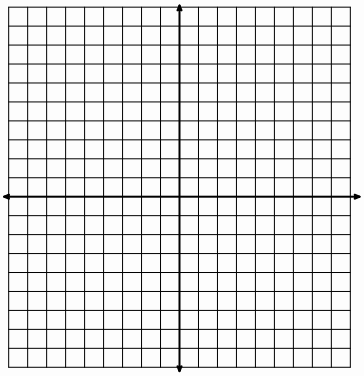
13. $\begin{cases} 2x + y = -6 \\ y = 6 \end{cases}$



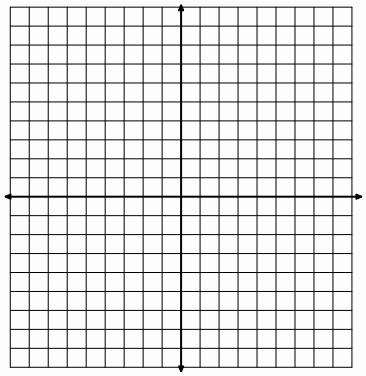
14. $\begin{cases} y = 2x - 2 \\ x + 3y = 15 \end{cases}$



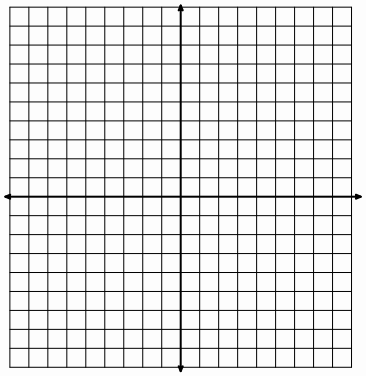
15. $\begin{cases} y + 3 = 6x - 2 \\ y - 2x + 1 = 4(x - 1) \end{cases}$



16. $\begin{cases} y = -(x - 4) \\ y - 2x - 1 = 0 \end{cases}$



17. $\begin{cases} y = 3(x - 2) \\ y + x - 2 = 4(x - 1) \end{cases}$



Need Help? Check out these related videos:

Comparing Linear and exponential functions:

http://www.khanacademy.org/math/algebra/algebra-functions/v/recognizing-linear-functions

http://www.khanacademy.org/math/algebra/ck12-algebra-1/v/identifying-exponential-models