

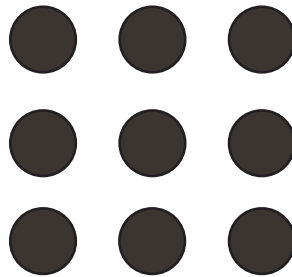
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Make a chart, draw a picture, or act out the problems to help you solve these problems. If you need more room, use your own paper.

1. The Nine Dots

Connect all these dots without lifting your pencil using **ONLY 4** straight lines. You may cross a line but you may not trace over a line. It can be done!



2. The Six Glasses

Six glasses, three filled with water and three empty, are shown below. If you can **ONLY** touch one glass, how can you arrange them so that the filled and the empty glasses alternate (full, empty, full, empty, full, empty)? No magic tricks here!



Solve the following problems. If you need more room, use your own paper.

1. The Never-Ending Joke

During the first minute in the school cafeteria Tammy tells a joke to two friends. The next minute each of her two friends tells the same joke to two other friends. The next minute, each of those two friends tells the same joke to two other friends. This keeps going on until 8 minutes have passed, and they had to go to class. How many of Tammy’s friends know the joke after 8 minutes? Finish the chart to help you answer the question.

2	4						
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Use an expression with an exponent to represent the number of new people that heard the joke on the 5th minute.

2. The House Numbers

There are 40 houses in a row, numbered consecutively from 1 to 40. How many times is the digit 1 used?



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