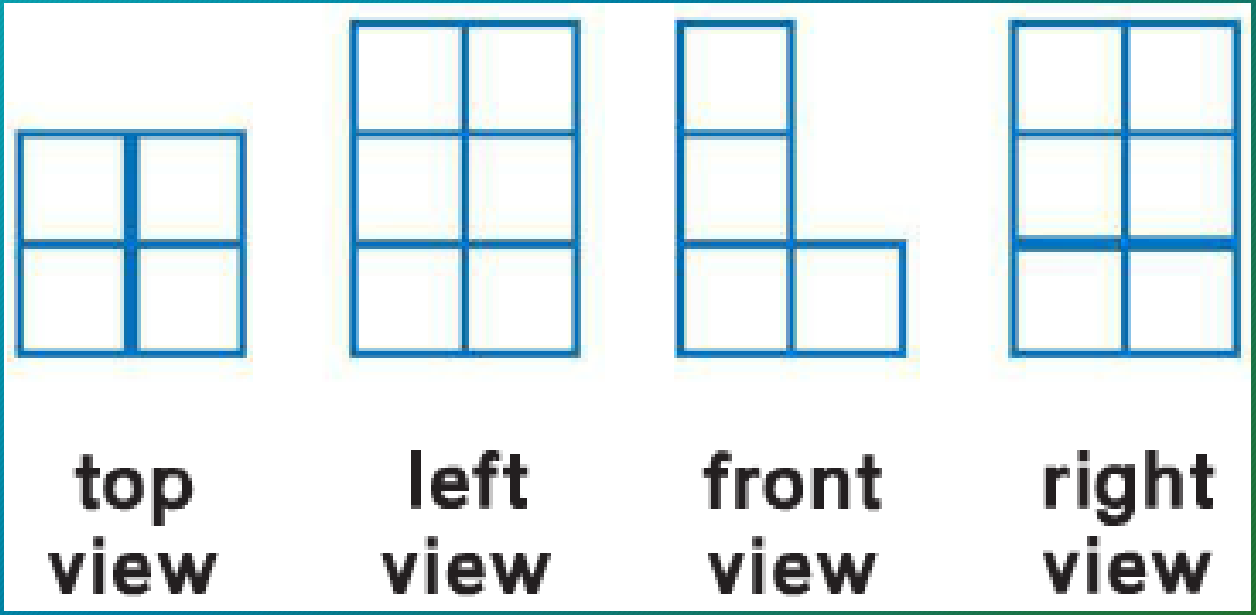
Representations of Three-Dimensional Figures

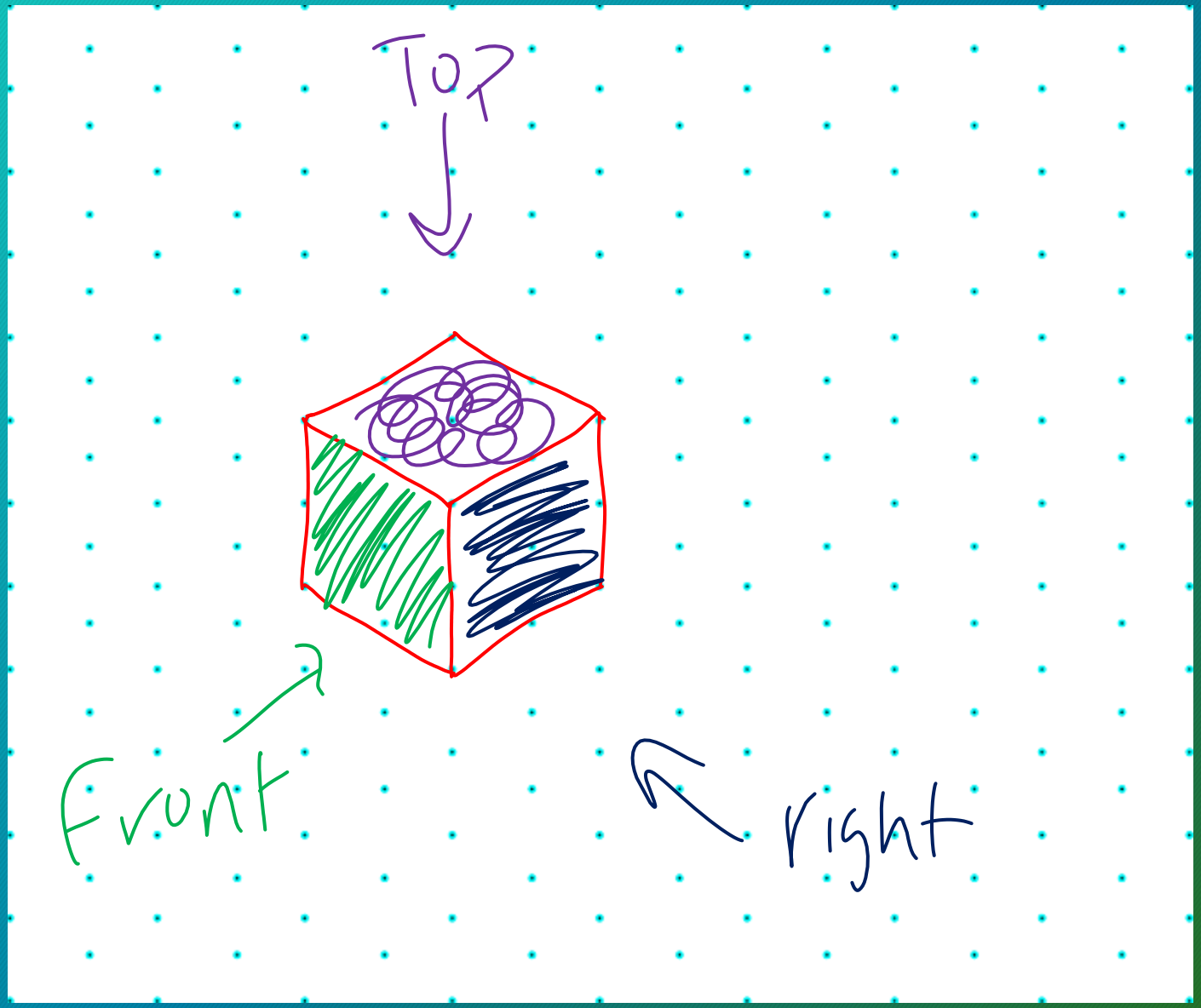
Isometric Views

- Isometric views allow for three-dimensional figures to be represented on a two-dimensional surface.

Examples

- Use isometric dot paper and the orthographic drawing to sketch a solid.




Top
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Examples

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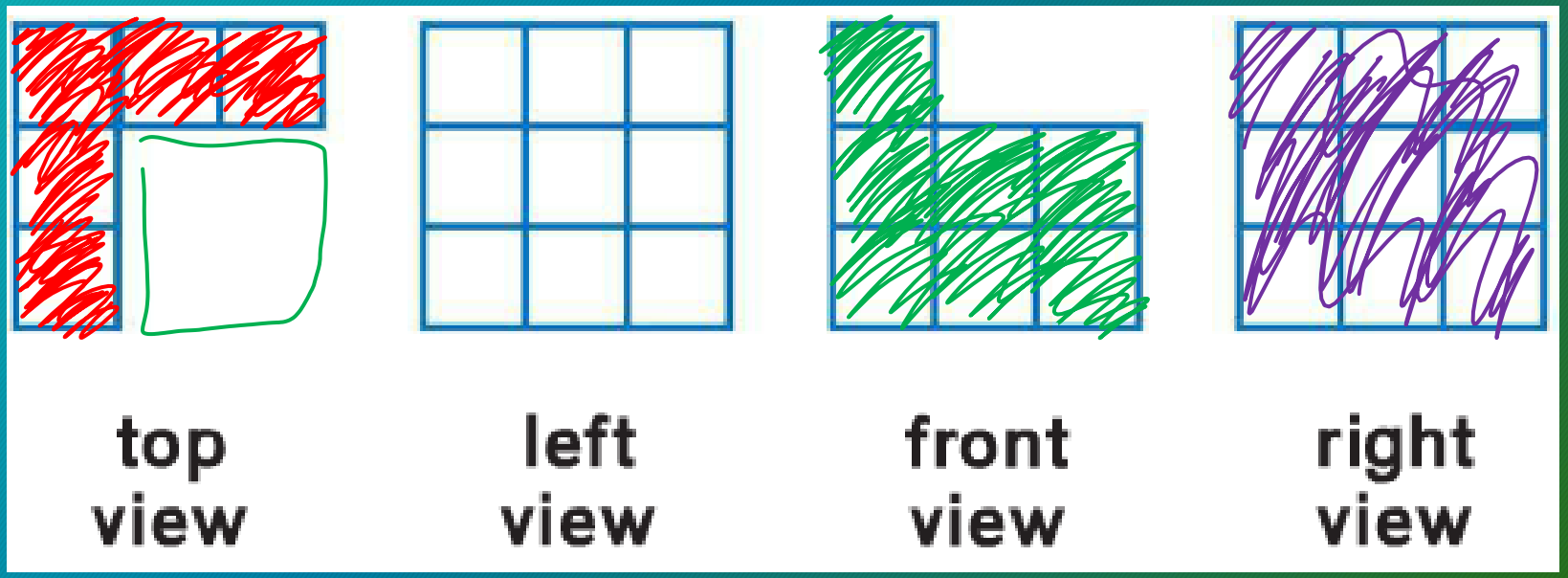

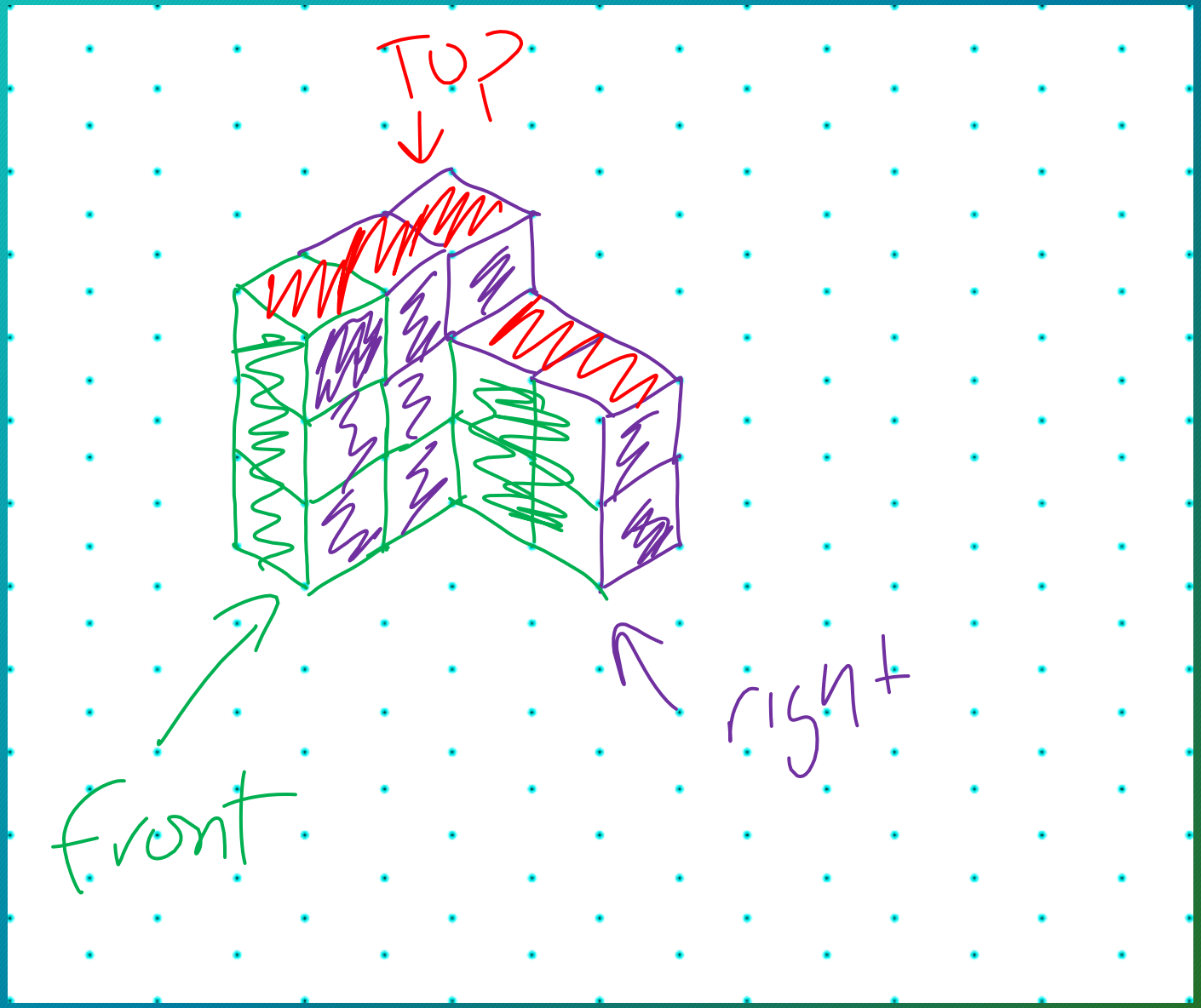
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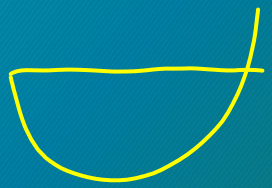
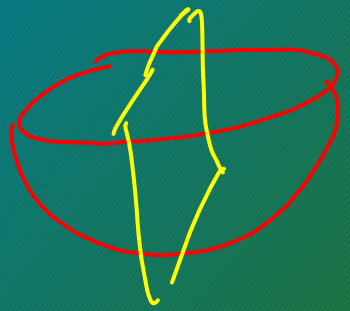
Cross Sections

- A cross section is the intersection of a solid and a plane.
- The shape of the cross section formed by the intersection of a plane and a three-dimensional figure depends on the angle of the plane.

Examples

- Carolyn has a cake pan shaped like half of a sphere. Describe the shape of the cross sections of cake baked in this pan if they are cut horizontally and vertically on its base.





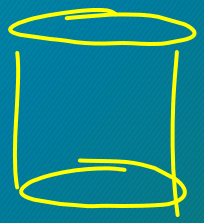
Examples

- Carolyn has a cake pan shaped like half of a sphere. Describe the shape of the cross sections of cake baked in this pan if they are cut horizontally and vertically on its base.

- Circle; semicircle

Examples

- A deli slicer is used to cut cylindrical blocks of cheese for sandwiches. Suppose a customer wants slices of cheese that are round and slices that are rectangular. How can the cheese be placed on the slicer to get each shape?



Examples

- A deli slicer is used to cut cylindrical blocks of cheese for sandwiches. Suppose a customer wants slices of cheese that are round and slices that are rectangular. How can the cheese be placed on the slicer to get each shape?

- To get round slices of cheese, slice the cheese parallel to the bases.

- To get rectangular slices, place the cheese on the slicer so the bases are perpendicular to the blade.