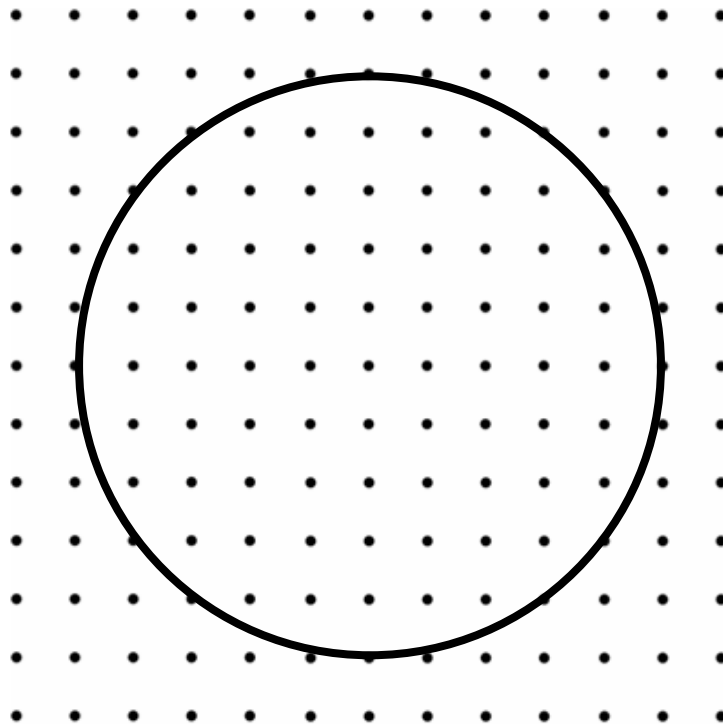


Area of a Circle

Instructions:

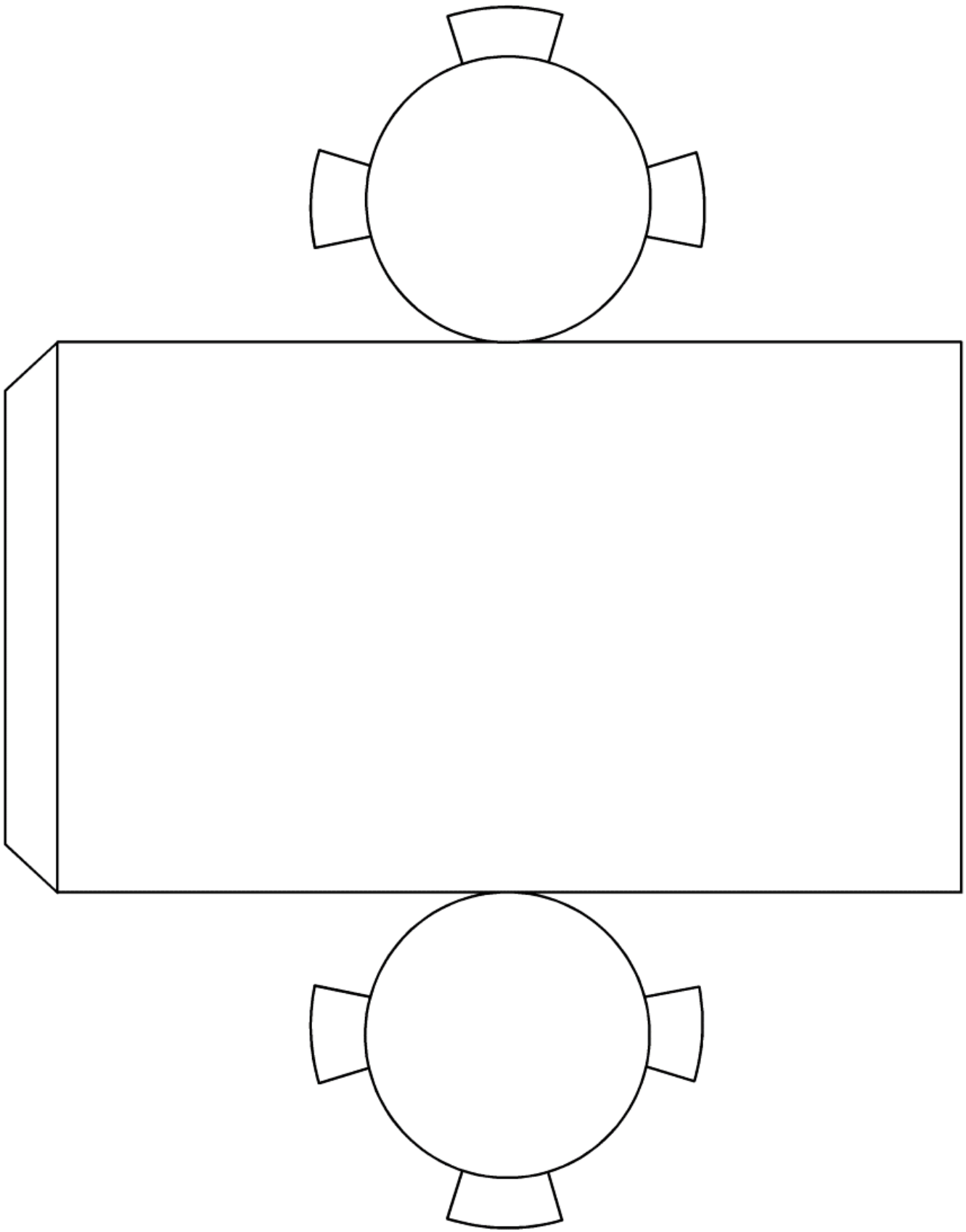
1. Cut out the circle and then divide (cut) the circle into 8 equal pie-shaped pieces.
2. Place the pieces side by side to make a figure that resembles a parallelogram.
3. What are the dimensions (base and height) of the parallelogram formed by the pie pieces? (You may want to include drawings so you remember where your measurements came from!)
4. How does the amount of space (area) taken up by the parallelogram compare to the amount of space (area) taken up by the circle?
5. Write a formula for the area of a circle: _____



Surface Area and Volume of a Cylinder

Instructions:

1. Cut out the net for the cylinder.
2. What does it mean to find the **surface area** of a three-dimensional figure?
3. What are the measurements of the rectangular part of the net? Describe how you found these measurements.
4. Describe how could you calculate the surface area of the cylinder.
5. Write a formula for the surface area of a cylinder: _____
6. What does it mean to find the **volume** of a three-dimensional figure?
7. Describe how could you calculate the volume of the cylinder.
8. Write a formula for the volume of a cylinder: _____

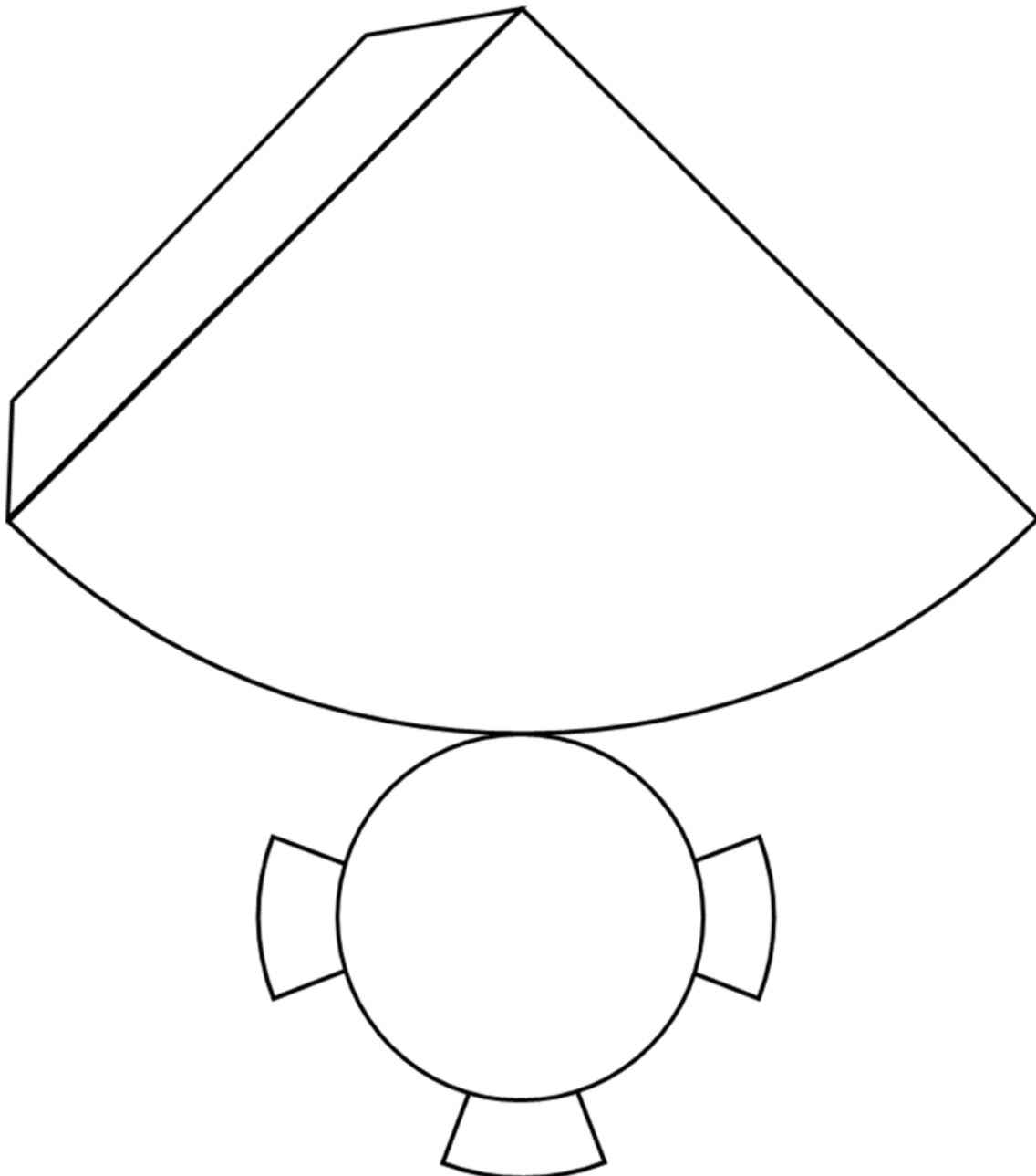


Net from: <https://www.math-salamanders.com/3d-geometric-shapes.html>

Extension: Volume of a Cone

Instructions:

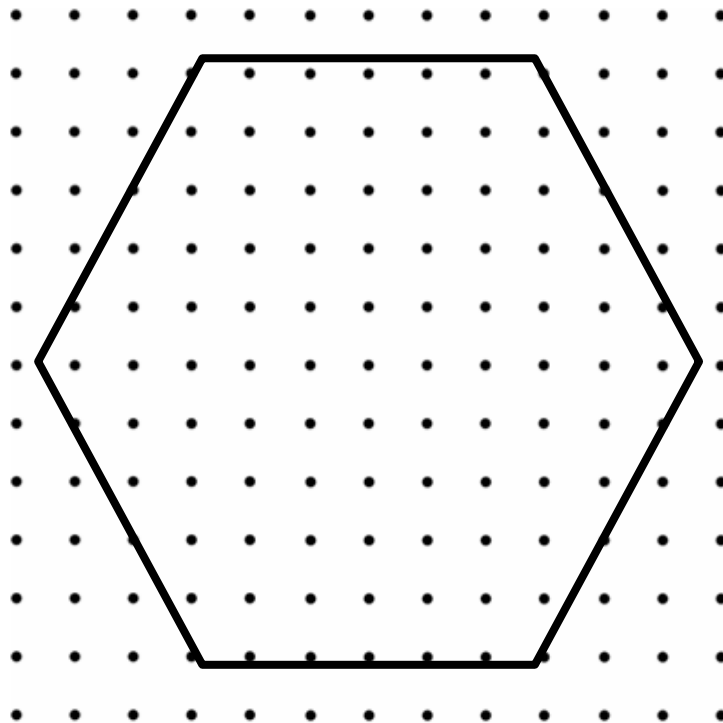
1. Cut out the net for the cone and tape the sides together so you have an open-top cone (like an empty ice cream cone).
2. Measure the vertical height of the cone. How does this measurement compare to the height of the cylinder?
3. How does the volume of the cone compare to the volume of the cylinder?



The Area of a Hexagon

Instructions:

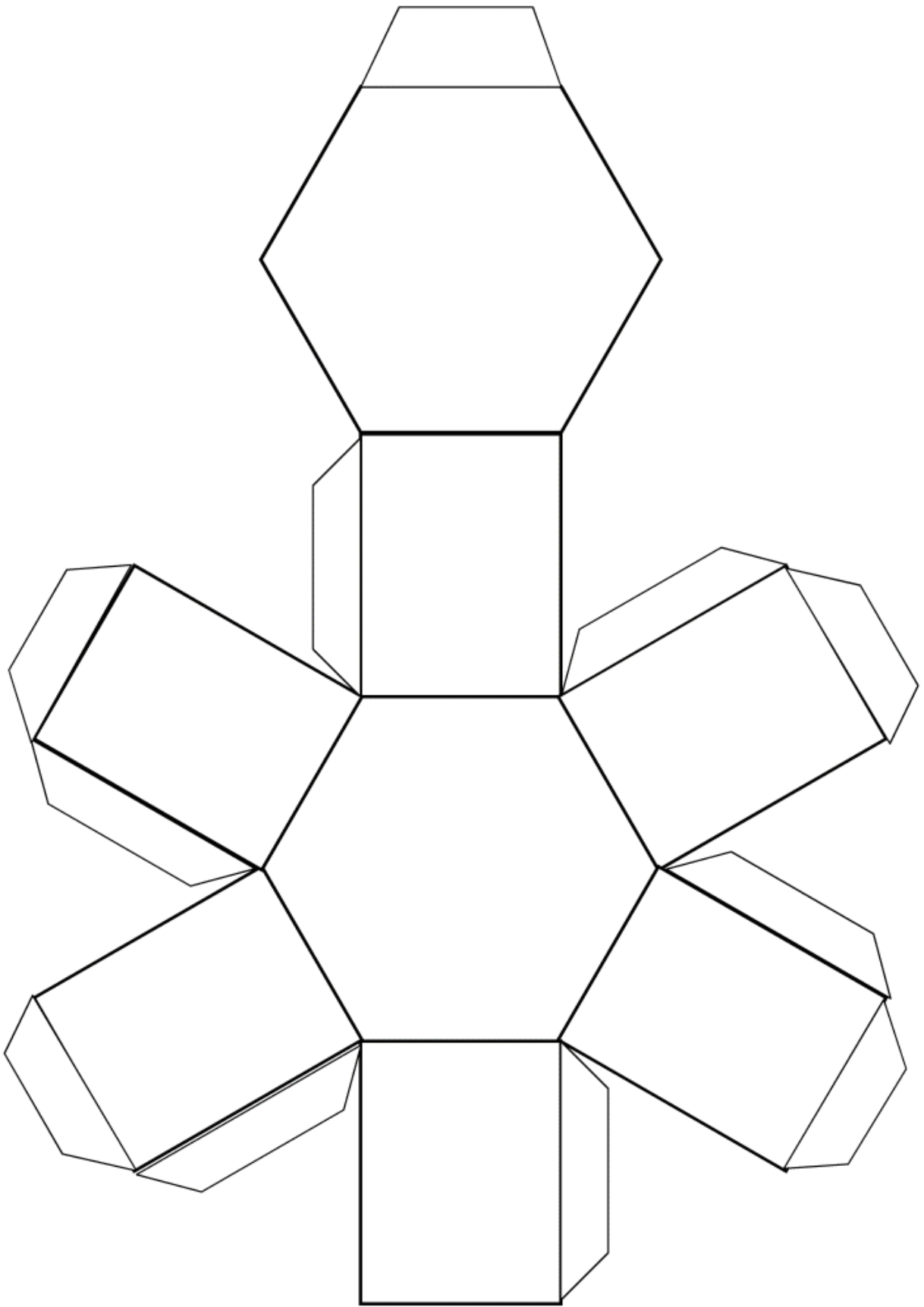
1. Cut out the hexagon.
2. Are there shapes within the hexagon for which you already know how to find area?
3. Describe how you could use these shapes to calculate the area of the hexagon. (You may want to include drawings so you remember where your ideas came from!)
4. Write a formula for the area of a hexagon: _____



Surface Area and Volume of a Prism

Instructions:

1. Cut out the net for the hexagonal prism.
2. What are the measurements of the rectangular parts of the net? Describe how you found these measurements.
3. Describe how could you calculate the surface area of the hexagonal prism.
4. Write a formula for the surface area of a hexagonal prism: _____
5. Describe how could you calculate the volume of the hexagonal prism.
6. Write a formula for the volume of a hexagonal prism: _____



Net from: <https://www.math-salamanders.com/3d-geometric-shapes.html>

Extension: Volume of a Hexagonal Pyramid

Instructions:

1. Cut out the net for the pyramid and tape the sides together so you have an open-top figure (like an empty ice cream cone).
2. Measure the vertical height of the hexagonal pyramid. How does this measurement compare to the height of the hexagonal prism?
3. How does the volume of the pyramid compare to the volume of the prism?

