Your group will be assigned a bounded region and a geometric shape. You will:

1. Graph the bounded region on a piece of cardboard (tape/glue graph paper on first). Measure your units in inches (each square on a standard piece of graph paper is ¼ inch).
2. Create a three dimensional shape with your bounded region as a base whose cross-sections are your given geometric shape (you will have to measure and cut many different sizes of these shapes from your cardboard) like the examples shown below.

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|  |  |
| Base: Circle, Shape: Equilateral Triangle | Base: Circle, Shape: Isosceles Right Triangle |

Of course you will need a lot more than 3 of your shape. You want a complete solid.

1. Find the exact volume of your shape.

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| --- | --- | --- | --- |
| Base region  bounded by: | Base region  bounded by: | Base region  bounded by: | Base region  bounded by:    , |
| Base region  bounded by: | Base region  bounded by: | Base region  bounded by: | Base region  bounded by:      , |
| Shape of cross section perpendicular to the *x*-axis:  Square | Shape of cross section perpendicular to the *x*-axis:  Square | Shape of cross section perpendicular to the *x*-axis:  Rectangle (Height is twice the width) | Shape of cross section perpendicular to the *x*-axis:  Rectangle (Height is twice the width) |
| Shape of cross section perpendicular to the *x*-axis:  Isosceles Right Triangle (Leg is Base) | Shape of cross section perpendicular to the *x*-axis:  Isosceles Right Triangle (Leg is Base) | Shape of cross section perpendicular to the *x*-axis:  Equilateral Triangle | Shape of cross section perpendicular to the *x*-axis:  Equilateral Triangle |