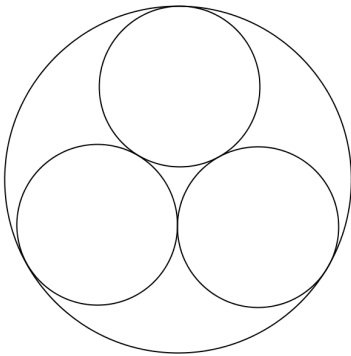


Advanced Math
Quarter 2 Problem Solving #2

1. A closed rectangular box has a surface area of 1000 square centimeters. Its length is twice its width, and its height is six times its width. What is its volume?

2. Three mutually tangent circles of radius 1 are surrounded by a larger circle that is simultaneously tangent to all three, as shown. What is the radius of the larger circle?



3. The center of the clock in Mr. Deal's room is located exactly 7 feet above the ground. If the second-hand is 6 inches long, write an equation that will display the height of the tip of the second-hand, or how high the tip is off of the ground. Write your equation where time = 0 occurs at noon, and time is measured in seconds.

4. $x^2 + x - 2$ is a factor of $2x^4 - 3x^3 + ax^2 + 7x + b$. Determine the value of $\frac{a}{b}$.