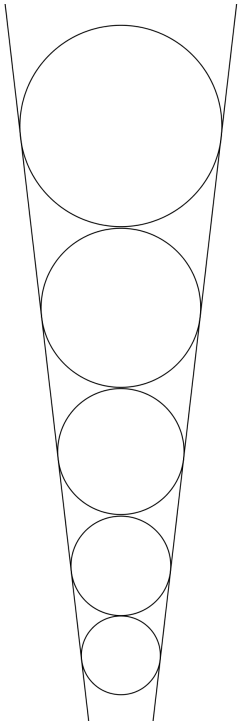
UNIVERSITY OF WISCONSIN
PLATTEVILLE
DEPARTMENT OF MATHEMATICS

Problem of the Week #3

(Fall 2016)



Five spheres are stacked up inside a cone; each sphere is tangent to the cone and to the next sphere(s) in the stack. The smallest sphere has radius 144, and the largest has radius 196. What is the radius of the middle sphere?

[Please fully explain your answer.]

Solutions should be submitted to Cinda Furry, in Gardner Hall 435, by 4:00 P.M. on Wednesday, October 5, 2016.

Every week, the best solution submitted earns a $10 Platteville gift certificate; the top scorer each semester also wins a cash award. Good luck!
You can always see the Problem of the Week (and complete rules) online at:

`http://www.uwplatt.edu/mathematics/problem-week`