Pensieve header: The 1206 riddle for MAT 257.

Consider the 2^n yellow balls of radius 1 with centers at the 2^n vertices of the n-dimensional cube $\{-1, 1\}^n$. Let C_n be the smallest box containing these balls, and let B_n be the largest blue ball centered at 0 bound by these balls. Compute $\lim_{n\to\infty} \frac{\text{Vol}(B_n)}{\text{Vol}(C_n)}$. PS. I wouldn't be asking, if I didn't think the answer was worth knowing.

```
GraphicsGrid[{Rasterize /@ {
   Graphics[{Yellow, Disk /@ Tuples[{1, -1}, 2], Blue, Disk[{0, 0}, Sqrt[2] - 1]}, Frame → True],
   Graphics3D[{Yellow, Ball /@ Tuples[{1, -1}, 3], Blue, Ball[{0, 0, 0}, Sqrt[3] - 1]},
    ViewPoint → {2.06766, -2.67826, -0.0415505}, ViewVertical → {0.465871, -0.399345, 0.789613}]
  }}]
```