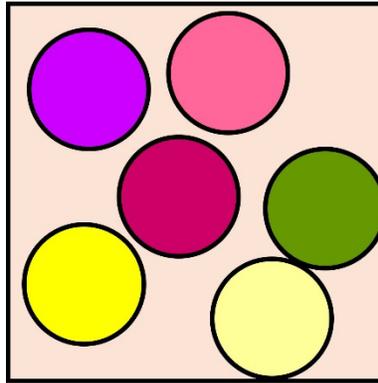


# UC Merced Applied Math Problem of the Month

April 2024



A basket with six eggs

You're trying to fit spherical Easter eggs into a single layer in a basket with a square base. To save costs, you want to use as small a basket as possible while still fitting the eggs in its base.

If each egg has a diameter of two inches, what is the smallest side-length of a basket which can hold three eggs? What about for four eggs? Can you generalize this to five, six, or  $N$  eggs?

See the figure for a top-down view of a basket with six eggs.

To submit your solutions for a chance to win an Amazon gift card, and to find out detailed contest rules,

- scan the QR code, or
- go to <https://bit.ly/UCM-POTM>

