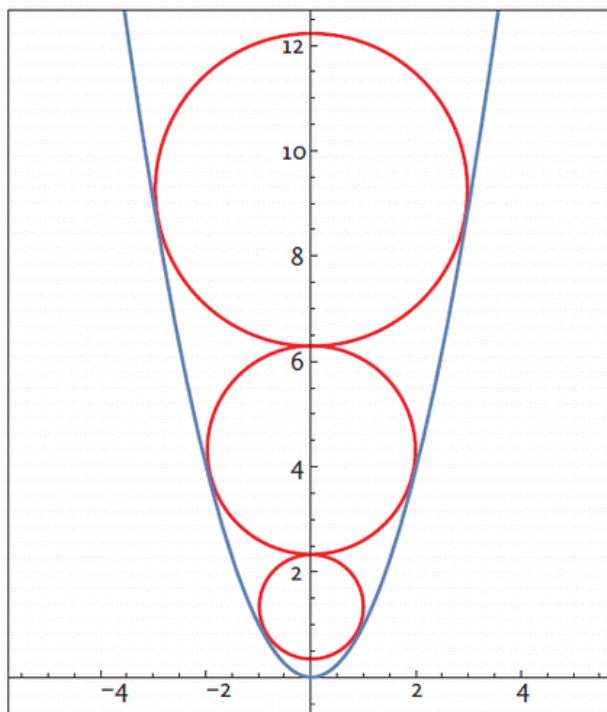


The following problem appeared in the February 2018 issue of Math Horizons – a publication of the Mathematical Association of America. Students who turn in solutions are recognized by the journal and Dr. Skorczewski will probably give out a prize as well. Feel free and encouraged to work in groups. If you are interested, you can ask Dr. Skorczewski for more information or to put in contact with others who want to work in a group.

Problem 366.

Fill the parabola $y = x^2$ with circles as follows. First, place a circle of radius 1 so that it is tangent to both arms of the parabola (see figure 1). Place a second circle above the first circle, tangent to the first circle and both arms of the parabola. Continue in this way, filling the interior of the parabola with larger and larger circles. Suppose a point P is selected at random from the interior of the parabola. In **Circular Reasoning**, find the probability that P is inside one of the circles.

Figure 1.



If you have an idea for a solution or just a question send it to Dr. Skorczewski (Dr. S) in JHSW 311 or at skorczewskit@uwstout.edu.

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