

ZMATH 2013f.00483

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Penny drop.

Math. Teach. Middle Sch. 18, No. 3, 136-139 (2012).

From the text: Students' thinking is discussed, and the procedures used with problem solving are explored. The penny drop problem appeared in [the editors, *ibid.* 17, No. 6, 319 (2012)]. To play the penny drop game, drop a penny from a height of 4 inches over a target. If more than the half of the penny is inside the circle labeled 50, you score 50 points. You need to add a 25-point region to the target so that the probability of scoring 25 points is double the probability of scoring 50 points. Experiment dropping pennies from a 4-inch height on your new target and record your results. Once you have decided on a region or regions, write an explanation of how and why you chose that area. A diagram was provided to illustrate the size and position of the 50-point circle on a board. Additionally, two full-size templates were available online for teacher use, one with a background grid and one without a grid. Teachers were encouraged to choose the template they believed was more appropriate for their students. Colleen Donahue, an eighth-grade teacher, sent in her students' work and shared some reflections. These reflections provided wonderful insight into not only students' thinking but also how a teacher presented the task and how it was used in the classroom.

Classification: G33 K53

Keywords: circles; area; grade 8; frequency table; probability; games; experimental mathematics; discovery learning; student activities; problem solving strategies; experience reports

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