**Notes – Area Models/Geometric Probability** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **Geometric Probability – The probability of landing in a specific region of a target. It is the ratio of the area of the shaded region to the area of the target.**  \*\*When determining geometric probability with targets, we are assuming that...   * The object lands within the target area. * It is equally likely that the object will land anywhere in the region. | | |
| 1. Your friend has an interesting collection of dartboards. If you throw a dart at random and it is guaranteed to hit the dartboard but you only get a point if it hits the shaded region, what is the probability that you will get a point on the dartboard below? | | |
| 1. Determine the area of the entire dartboard. | |  |
| 1. Determine the area of the shaded region. | |
| 1. Determine the probability by comparing the area of the shaded region to the area of the entire dartboard. Be sure to convert your probability to a percent. | | |
| 1. Does your answer seem reasonable? | | |
| 1. During Raleigh’s Freedom Balloon Fest, each balloon tries to land in a target zone. The target zone is a square that has a side length of 25 ft. The target zone is in the middle of a rectangular field that is 325 feet by 350 feet. Find the probability that the balloon lands in the target zone. | | |
| 1. If the area of the target zone is doubled, how does the probability change? | 1. If each side of the target zone is doubled, how does the probability change? | |

**Practice**

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| Area of the rectangle: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Area of one circle: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Area of three circles: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Area of shaded region: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    Probability: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Area of the parallelogram: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Area of triangle: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Area of total figure: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Area of shaded region: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    Probability: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
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| Area of total figure: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Area of circle: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Area of shaded region: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    Probability: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Area of total figure: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Area of parallelogram: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Area of shaded region: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    Probability: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

*Adapted from 8th Grade Math Focus Day 82*