**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.
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| 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?
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| 1. Determine the area of the entire dartboard.
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| 1. Determine the area of the shaded region.
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| 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.

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| 1. Does your answer seem reasonable?
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| 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.
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| 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?
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**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: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  |  |
| 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*