


Concept: Geometric Probabilities

Name:

COMPUTER COMPONENT

Instructions: In  follow the **Content Menu** path:

Probability > Geometric Probabilities



Work through all Sub Lessons of the following Lessons **in order**:

- *In this Topic*
- *Introduction*
- *The Parachutist*
- *Dartboard*
- *Win a Prize*
- *The Fly*
- *Baby Walk*



As you work through the computer exercises, you will be prompted to make notes in your notebook/math journal.

SUMMARY

1. *Dartboard*

Record your findings from the Dartboard experiment in the tables below.

Your Experiment

	First	Second	Third
Number of Hits	16	33	51
	*Results will vary.		
Experimental Probability	$\frac{16}{100}$	$\frac{33}{100}$	$\frac{51}{100}$

The Computer's Experiment

	First	Second	Third
Number of Hits	81	290	629
Experimental Probability	$\frac{81}{1000}$	$\frac{290}{1000}$	$\frac{629}{1000}$

The Theoretical Probability

	First	Second	Third
Area of Ring	$9 \times \pi = 28$ 200	$27 \times \pi = 84$	$64 \times \pi =$
Theoretical Probability	$\frac{9 \times \pi}{100 \times \pi}$ π	$\frac{27 \times \pi}{100 \times \pi}$	$\frac{64 \times \pi}{100 \times \pi}$

How does the Theoretical Probability compare to the other two results?

The same pattern can be seen in both experiments; however, keep in mind that the theoretical results are never exactly the same as the experimental results.

2. Baby Walk

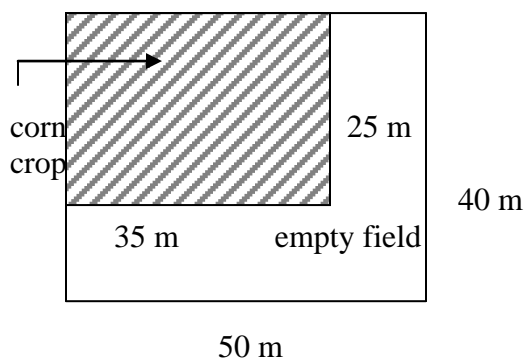
Record your calculations in the spaces provided.

$$P(\text{Zippy falls on carpet}) = \frac{143}{208}$$

$$\begin{aligned} P(\text{Zippy falls on the floor}) &= 1 - P(\text{Zippy falls on the carpet}) \\ &= \frac{65}{208} \\ &= \frac{5}{16} \end{aligned}$$

OFF COMPUTER EXERCISES

1. A Hot Air Balloon needs to land in a farmer's field. The field is laid out as follow



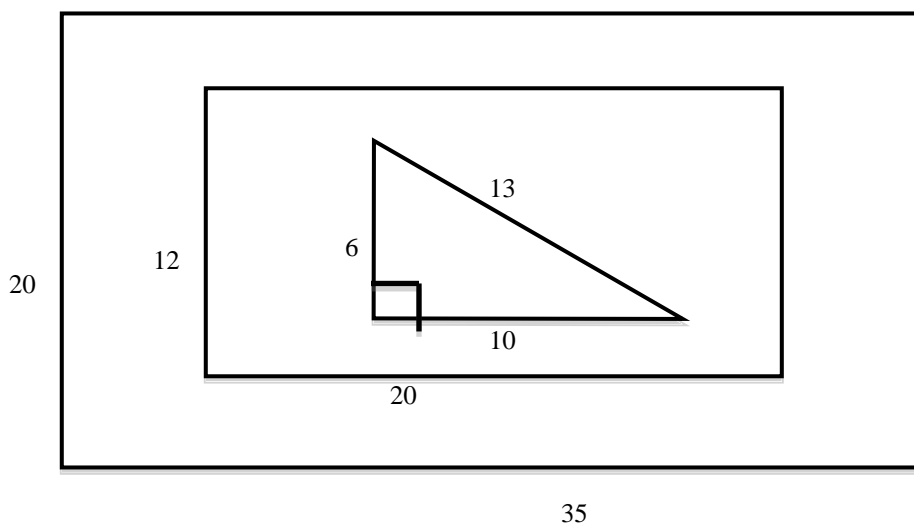
(a) What is the probability that the Hot Air Balloon will land in the empty field?

The probability is $1 - \frac{875}{2000} - \frac{1125}{2000}$

(b) What is the probability that the Hot Air Balloon will land in the corn crop?

The probability is $\frac{25 \times 35}{40 \times 50} = \frac{875}{2000}$

2. What is the probability that a missing sailboat is somewhere in the triangular region below, given that from radio transmissions it is known to have capsized somewhere in the smaller rectangular region?



The probability is $\frac{10 \times 6 \div 2}{20 \times 12} = \frac{30}{240} = \frac{5}{40}$

4. Design your own probability question involving area. When you are finished your question, have a friend try it in order to check your answer.

*** Responses will vary.**