

Probability: The First 100 Digits of Pi

Follow the steps below to find the probability of randomly selecting each digit in the first 100 digits of pi. Then answer the questions that follow.

First, complete the frequency table to show how often each digit appears in the first 100 digits of pi. The first 100 digits of pi are shown below.

3.14159265358979323846264338327950288419716939937510
5820974944592307816406286208998628034825342117067



Digit	0	1	2	3	4	5	6	7	8	9
Frequency	8	8	12	12	10	8	9	8	12	13

Now, find the probability of randomly selecting each digit. Write each probability as a fraction in simplest form, decimal, and percent.

$P(0) = \frac{2}{25} = 0.08 = 8\%$	$P(1) = \frac{2}{25} = 0.08 = 8\%$
$P(2) = \frac{3}{25} = 0.12 = 12\%$	$P(3) = \frac{3}{25} = 0.12 = 12\%$
$P(4) = \frac{1}{10} = 0.1 = 10\%$	$P(5) = \frac{2}{25} = 0.08 = 8\%$
$P(6) = \frac{9}{100} = 0.09 = 9\%$	$P(7) = \frac{2}{25} = 0.08 = 8\%$
$P(8) = \frac{3}{25} = 0.12 = 12\%$	$P(9) = \frac{13}{100} = 0.13 = 13\%$

Answer the questions using the probabilities you found.

Which digit or digits are *most* likely to be randomly selected in the first 100 digits of pi?

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Which digit or digits are *least* likely to be randomly selected in the first 100 digits of pi?

0, 1, 5, and 7