

*P.I. A.S.20: Calculate the probability of an event and its complement*

1. A number cube is rolled 150 times. The number five comes up 24 times.
  - a) What is the theoretical probability of rolling a five?
  - b) What is the experimental probability of rolling a five?
  
2. There are 11 boys and 13 girls in your class. What is the probability the teacher will call on a boy?
  
3. There are 14 boys and 12 girls in your class. What is the probability the teacher will call on a boy?
  
4. A bag contains 5 green marbles and 3 orange marbles. A marble is drawn and dropped back into the bag. Another marble is drawn and dropped back into the bag. Both marbles were green. If another marble is drawn, what is the probability that it is orange?

5. The population of Alaska in 1994 was 606,278. If the population of the capital city Juneau was 29,078, what is the probability that someone living in Alaska lives in Juneau? Express your answer as a percent.
  
6. When you clasp your hands together, placing your left thumb on top is a dominant genetic trait. L represents the dominant gene; l represents the recessive gene. Anyone who inherits at least one L gene from a parent will place their left thumb on top. This chart shows the possible combination of gene pairs that a child could inherit if one parent has the gene pair Ll and the other parent has the gene pair ll.

		Gene from Mom	
		L	l
Gene from Dad	l	Ll	ll
	L	Ll	ll

What is the probability that the child will place the left thumb on top?

7. Use any problem solving strategy to solve the following problem. Each section of a twelve section spinner is either red, blue, or yellow. If  $P(\text{red}) = \frac{1}{3}$  and  $P(\text{yellow}) = \frac{1}{2}$ , determine the number of sections of each color.

Integrated Algebra Practice: A.S.20 #2

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[1] a.  $\frac{1}{6}$  b.  $\frac{4}{25}$

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[2]  $\frac{11}{24}$

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[3]  $\frac{7}{13}$

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[4]  $\frac{3}{8}$

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[5] about 4.8%

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[6]  $\frac{1}{2}$

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[7] 4 red, 6 yellow, and 2 blue

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