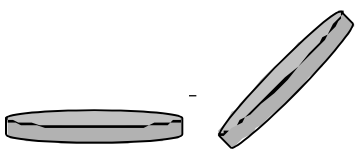
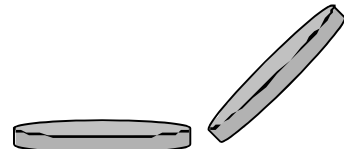
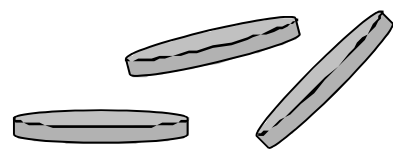
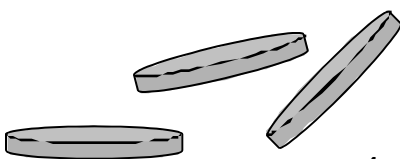
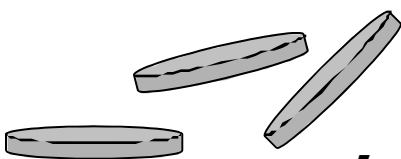
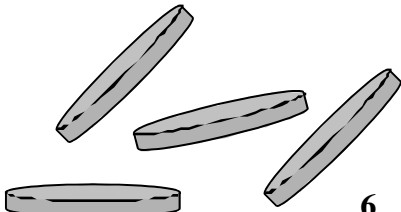
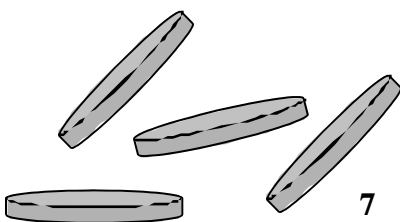
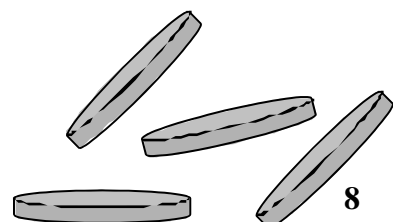







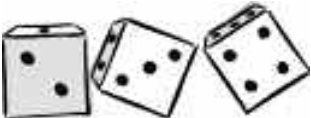




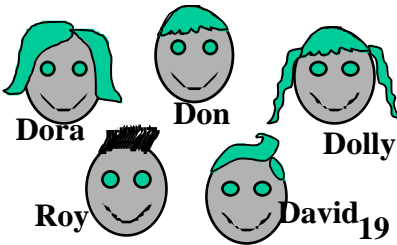
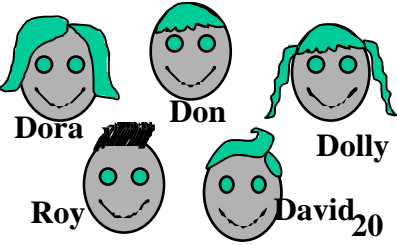
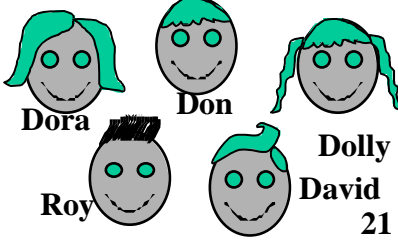
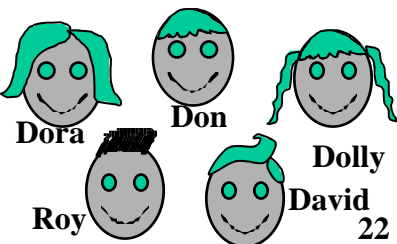
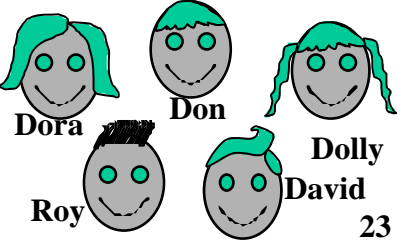
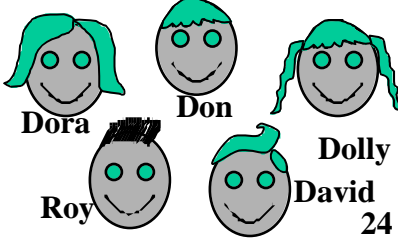
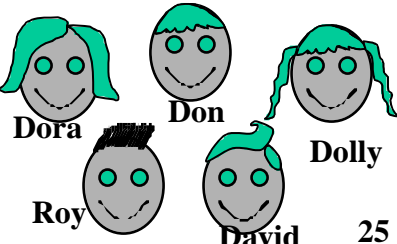
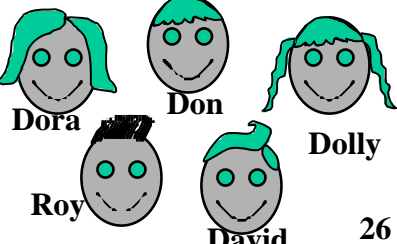
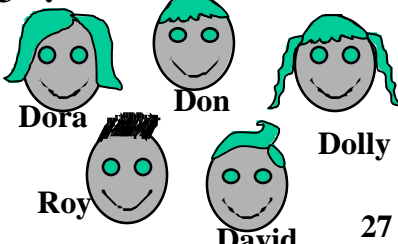
Oops!

<p>Two coins are tossed, what is the probability that both land heads up?</p>  <p>1</p>	<p>Two coins are tossed, what is the probability that the two coins show the same side up (both heads or both tails)?</p>  <p>2</p>	<p>Three coins are tossed, what is the probability that the three coins all land heads up?</p>  <p>3</p>
<p>Three coins are tossed, what is the probability that the three coins show two heads and one tail?</p>  <p>4</p>	<p>Three coins are tossed, what is the probability that the three coins all show the same side up (all 3 heads or all 3 tails)?</p>  <p>5</p>	<p>Four coins are tossed, what is the probability that the four coins all show the same side up (all 4 heads or all 4 tails)?</p>  <p>6</p>
<p>Four coins are tossed, what is the probability that the four coins all land heads up?</p>  <p>7</p>	<p>Four coins are tossed, what is the probability that the four coins show one head and 3 tails?</p>  <p>8</p>	<p>A quarter, a nickel, and a dime are in a bank. what is the probability that the quarter falls out first and the nickel falls out second?</p>  <p>9</p>

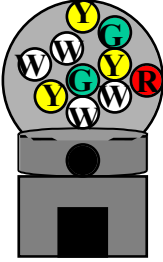
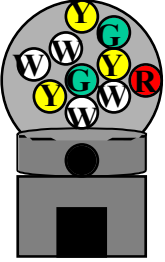
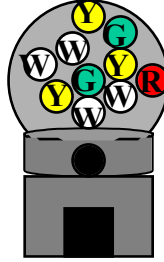
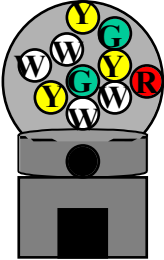
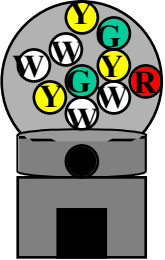
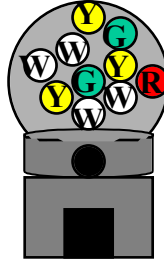
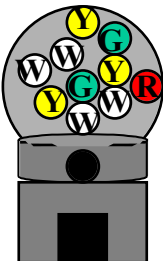
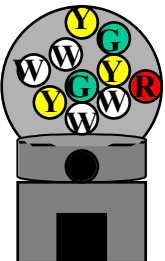
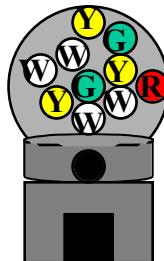
Oops!

<p>Two dice are rolled. What is the probability that the first one shows 2 and the 2nd one shows 4?</p>  <p>10</p>	<p>Two dice are rolled. What is the probability that the first one is less than 3 and the 2nd one is more than 4?</p>  <p>11</p>	<p>Two dice are rolled, what is the probability that the first one is even and the second one is odd?</p>  <p>12</p>
<p>Two dice are rolled. What is the probability that the two dice show the same number?</p>  <p>13</p>	<p>Two dice are rolled. What is the probability that the first one is 2 and the second one is greater than or equal to 2?</p>  <p>14</p>	<p>Two dice are rolled. What is the probability that the first one is less than 3 and the second shows an odd number?</p>  <p>15</p>
<p>Three dice are rolled. What is the probability that all three show a number one?</p>  <p>16</p>	<p>Three dice are rolled. What is the probability that all three dice show the same number?</p>  <p>17</p>	<p>Three dice are rolled. What is the probability that the first one is even, the second one is a six, and the last one is greater than 4?</p>  <p>18</p>

Oops!

<p>Two of the five students below are chosen randomly to attend a meeting. What is the probability that Dora is first and a boy is 2nd?</p> 	<p>Two of the five students below are chosen randomly to attend a meeting. What is the probability that a boy is picked 1st and a girl is 2nd?</p> 	<p>Two of the five students below are chosen randomly to attend a meeting. What is the probability both names begin with D?</p> 
<p>Two of the five students below are chosen randomly to attend a meeting. What is the probability both are girls?</p> 	<p>Two of the five students below are chosen randomly to attend a meeting. What is the probability that both are boys?</p> 	<p>Two of the five students below are chosen randomly to attend a meeting. What is the probability that Don is first and Dolly is 2nd?</p> 
<p>Three of the five students below are chosen randomly to attend a meeting. What is the probability that all 3 are boys?</p> 	<p>Three of the five students below are chosen randomly to attend a meeting. What is the probability all 3 have names beginning with D?</p> 	<p>Three of the five students below are chosen randomly to attend a meeting. What is the probability that Roy is first, Dolly 2nd, and David 3rd?</p> 

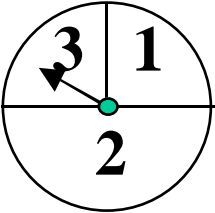
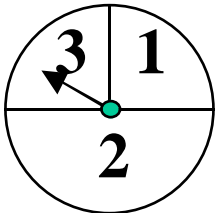
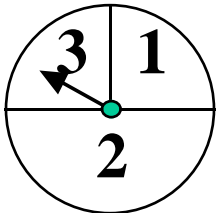
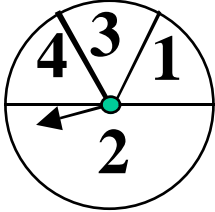
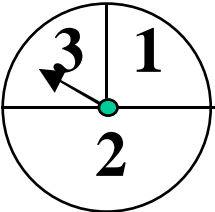
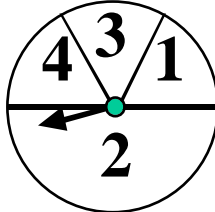
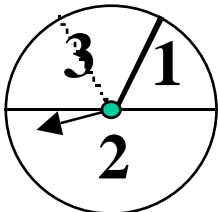
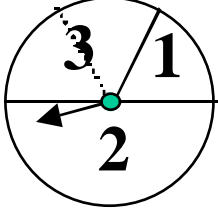
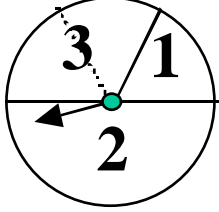
Oops!

<p>If two gumballs are purchased, what is the probability of both green?</p>  <p>Gumballs 1 Red 2 Green 3 Yellow 4 White</p> <p style="text-align: right;">28</p>	<p>If two gumballs are purchased, what is the probability of both white?</p>  <p>Gumballs 1 Red 2 Green 3 Yellow 4 White</p> <p style="text-align: right;">29</p>	<p>If two gumballs are purchased, what is the probability of both yellow?</p>  <p>Gumballs 1 Red 2 Green 3 Yellow 4 White</p> <p style="text-align: right;">30</p>
<p>If two gumballs are purchased, what is the probability of red first and yellow second?</p>  <p>Gumballs 1 Red 2 Green 3 Yellow 4 White</p> <p style="text-align: right;">31</p>	<p>If two gumballs are purchased, what is the probability of yellow first and white second?</p>  <p>Gumballs 1 Red 2 Green 3 Yellow 4 White</p> <p style="text-align: right;">32</p>	<p>If two gumballs are purchased, what is the probability of red first and green second?</p>  <p>Gumballs 1 Red 2 Green 3 Yellow 4 White</p> <p style="text-align: right;">33</p>
<p>If three gumballs are purchased, what is the probability of all 3 yellow?</p>  <p>Gumballs 1 Red 2 Green 3 Yellow 4 White</p> <p style="text-align: right;">34</p>	<p>If three gumballs are purchased, what is the probability of all 3 white?</p>  <p>Gumballs 1 Red 2 Green 3 Yellow 4 White</p> <p style="text-align: right;">35</p>	<p>If three gumballs are purchased, what is the probability of getting the red ball as one of the three?</p>  <p>Gumballs 1 Red 2 Green 3 Yellow 4 White</p> <p style="text-align: right;">36</p>

Oops!

<p>If the cards are placed in a hat and two drawn out, what is the probability that both are blue cards?</p>  <p style="text-align: right;">37</p>	<p>If the cards are placed in a hat and two drawn out, what is the probability of a vowel first and a consonant second?</p>  <p style="text-align: right;">38</p>	<p>If the cards are placed in a hat and two drawn out, what is the probability of an E first and an A second?</p>  <p style="text-align: right;">39</p>
<p>If the cards are placed in a hat and two drawn out, what is the probability of an L first and an N second?</p>  <p style="text-align: right;">40</p>	<p>If the cards are placed in a hat and two drawn out, what is the probability of an E first and a vowel second?</p>  <p style="text-align: right;">41</p>	<p>If the cards are placed in a hat and two drawn out, what is the probability of an I first and a white card second?</p>  <p style="text-align: right;">42</p>
<p>If the cards are placed in a hat and two drawn out, what is the probability of a white card first and an E second?</p>  <p style="text-align: right;">43</p>	<p>If the cards are placed in a hat and three drawn out, what is the probability of all 3 A's?</p>  <p style="text-align: right;">44</p>	<p>If the cards are placed in a hat and three drawn out, what is the probability of all 3 white cards?</p>  <p style="text-align: right;">45</p>

Oops!

<p>If the spinner below is spun twice, what is the probability that it lands on a 3 first, and a 2 second?</p>  <p style="text-align: right;">46</p>	<p>If the spinner below is spun twice, what is the probability that it lands a 2 both times?</p>  <p style="text-align: right;">47</p>	<p>If the spinner below is spun twice, what is the probability that it lands on a 3 both times?</p>  <p style="text-align: right;">48</p>
<p>If the spinner below is spun twice, what is the probability that it lands on a 4 first and a 2 second?</p>  <p style="text-align: right;">49</p>	<p>The spinner below was spun ten times, and it landed on 1 each time. What is the probability that it will land on a 1 the next time it's spun?</p>  <p style="text-align: right;">50</p>	<p>If the spinner below is spun 3 times, what is the probability that it will land on a 1 each time?</p>  <p style="text-align: right;">51</p>
<p>If the spinner below is spun twice, what is the probability that it lands on a 1 first, a 2 second, and a 3 third?</p>  <p style="text-align: right;">52</p>	<p>If the spinner below is spun 3 times, what is the probability that it lands on a 3 all 3 times?</p>  <p style="text-align: right;">53</p>	<p>If the spinner below is spun 3 times, what is the probability that it will land on 2 the first 2 times and on 3 the last time?</p>  <p style="text-align: right;">54</p>

Oops! Answers

1. $\frac{1}{4}$

2. $\frac{1}{2}$

3. $\frac{1}{8}$

4. $\frac{3}{8}$

5. $\frac{1}{4}$

6. $\frac{1}{8}$

7. $\frac{1}{16}$

8. $\frac{1}{4}$

9. $\frac{1}{6}$

10. $\frac{1}{36}$

11. $\frac{1}{9}$

12. $\frac{1}{4}$

13. $\frac{1}{6}$

14. $\frac{5}{36}$

15. $\frac{1}{6}$

16. $\frac{1}{216}$

17. $\frac{1}{36}$

18. $\frac{1}{36}$

19. $\frac{3}{20}$

20. $\frac{3}{10}$

21. $\frac{3}{5}$

22. $\frac{1}{10}$

23. $\frac{3}{10}$

24. $\frac{1}{20}$

25. $\frac{1}{10}$

26. $\frac{2}{5}$

27. $\frac{1}{60}$

28. $\frac{1}{45}$

29. $\frac{2}{15}$

30. $\frac{1}{15}$

31. $\frac{1}{30}$

32. $\frac{2}{15}$

33. $\frac{1}{45}$

34. $\frac{1}{120}$

35. $\frac{1}{30}$

36. $\frac{3}{10}$

37. $\frac{1}{3}$

38. $\frac{4}{15}$

39. $\frac{1}{15}$

40. $\frac{2}{45}$

41. $\frac{1}{9}$

42. $\frac{2}{45}$

43. $\frac{4}{45}$

44. $\frac{1}{120}$

45. $\frac{1}{30}$

46. $\frac{1}{8}$

47. $\frac{1}{4}$

48. $\frac{1}{16}$

49. $\frac{1}{12}$

50. $\frac{1}{4}$

51. $\frac{1}{216}$

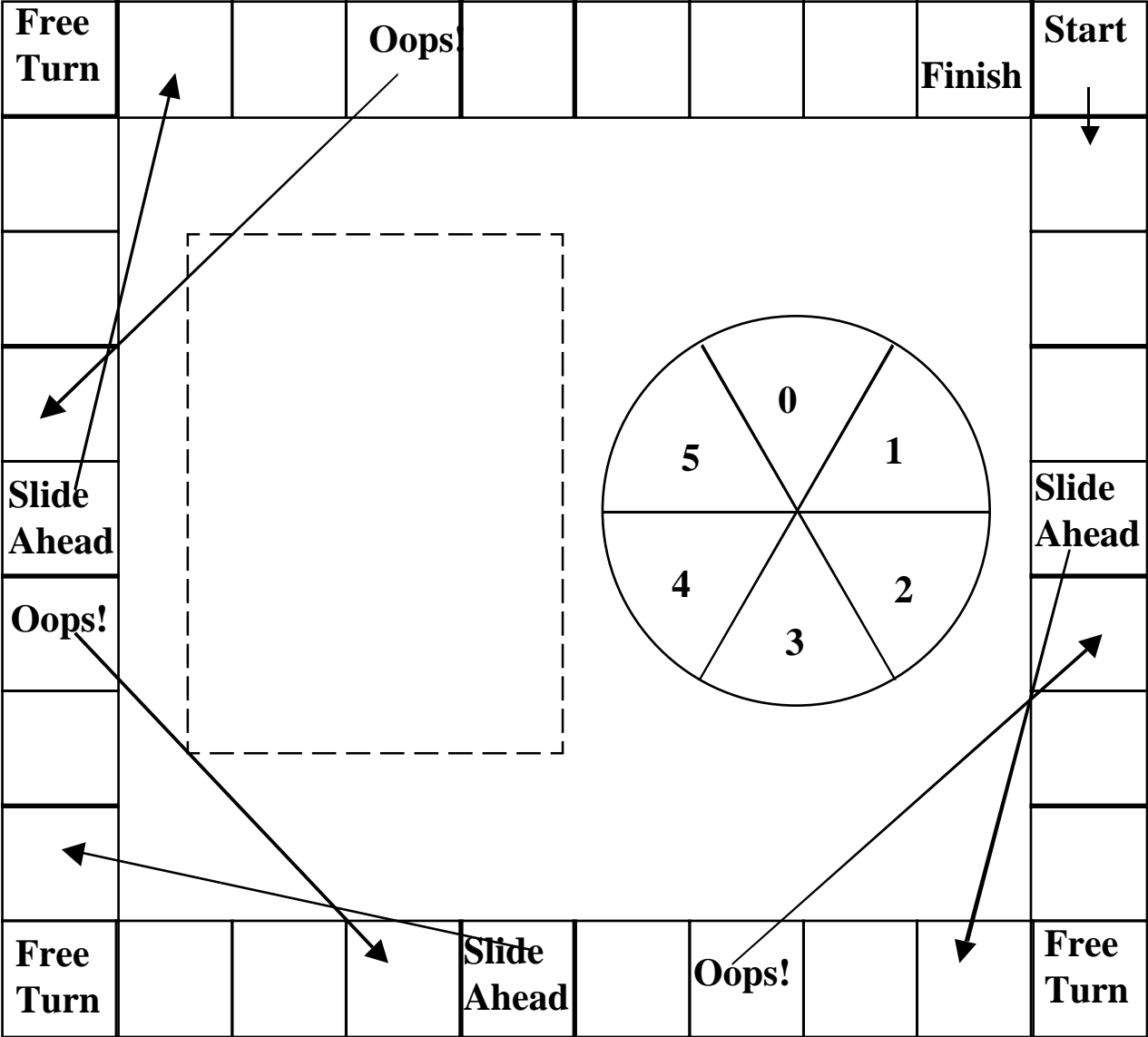
52. $\frac{1}{36}$

53. $\frac{1}{27}$

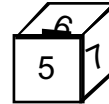
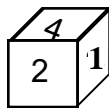
54. $\frac{1}{12}$



Oops! Game Board



Fraction Cubes and Probability



		Numerator					
		1	2	3	4	5	6
Denominator	4	$\frac{1}{4}$	$\frac{2}{4}$	$\frac{3}{4}$	$\frac{4}{4}$	$\frac{5}{4}$	$\frac{6}{4}$
	5	$\frac{1}{5}$	$\frac{2}{5}$	$\frac{3}{5}$	$\frac{4}{5}$	$\frac{5}{5}$	$\frac{6}{5}$
	6	$\frac{1}{6}$	$\frac{2}{6}$	$\frac{3}{6}$	$\frac{4}{6}$	$\frac{5}{6}$	$\frac{6}{6}$
	7	$\frac{1}{7}$	$\frac{2}{7}$	$\frac{3}{7}$	$\frac{4}{7}$	$\frac{5}{7}$	$\frac{6}{7}$
	8	$\frac{1}{8}$	$\frac{2}{8}$	$\frac{3}{8}$	$\frac{4}{8}$	$\frac{5}{8}$	$\frac{6}{8}$
	9	$\frac{1}{9}$	$\frac{2}{9}$	$\frac{3}{9}$	$\frac{4}{9}$	$\frac{5}{9}$	$\frac{6}{9}$

Here is a fraction chart made from a numerator cube containing numbers from 1-6 and a denominator cube containing numbers from 4-9.

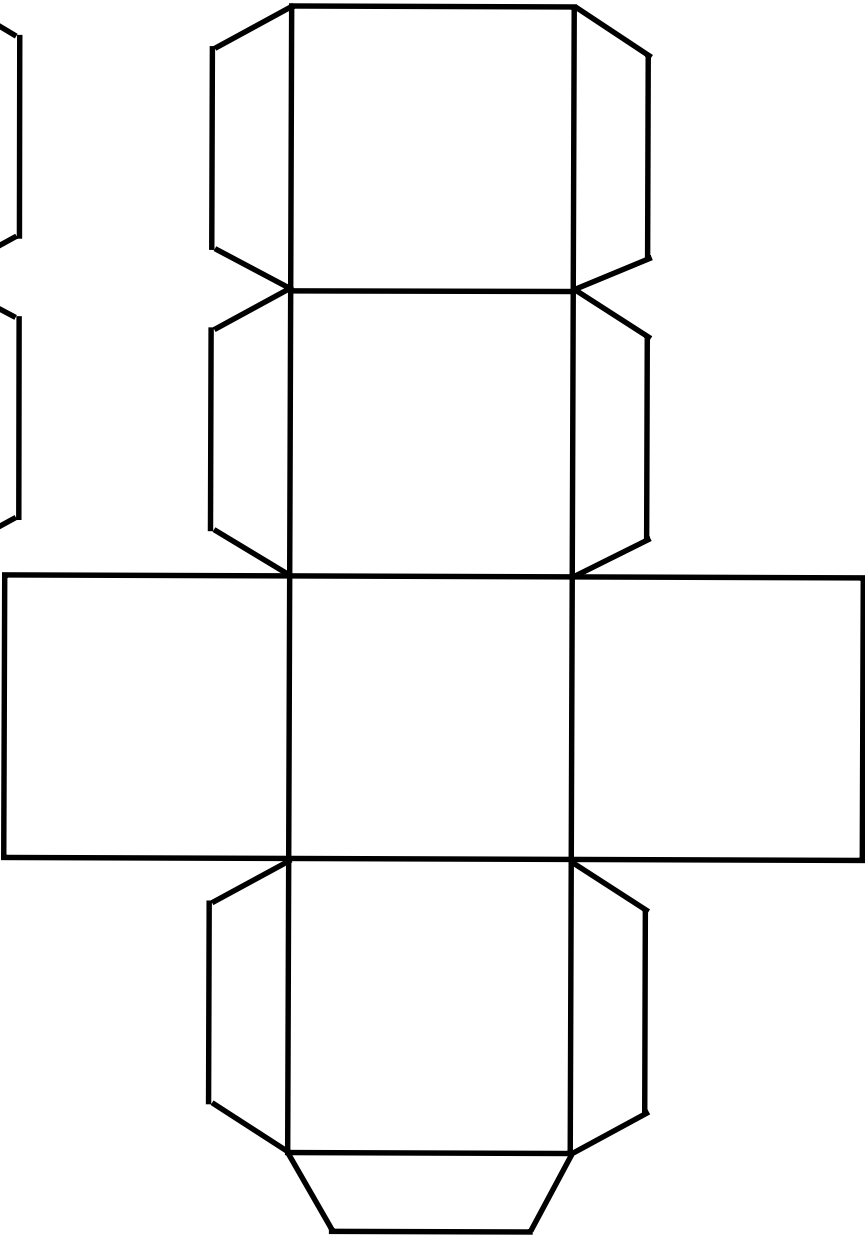
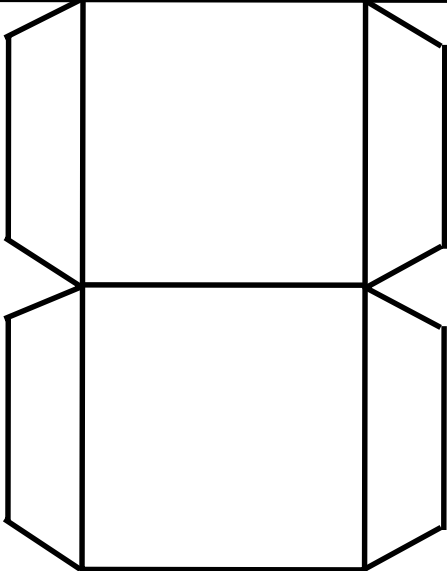
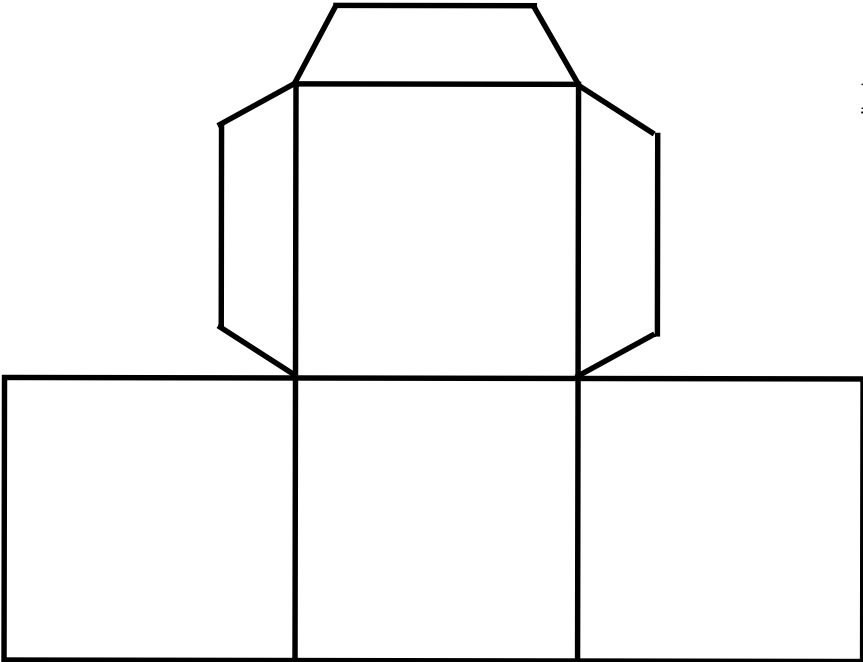
1. Find the probability that the fraction is not in lowest terms. _____

		Numerator					
Denominator							

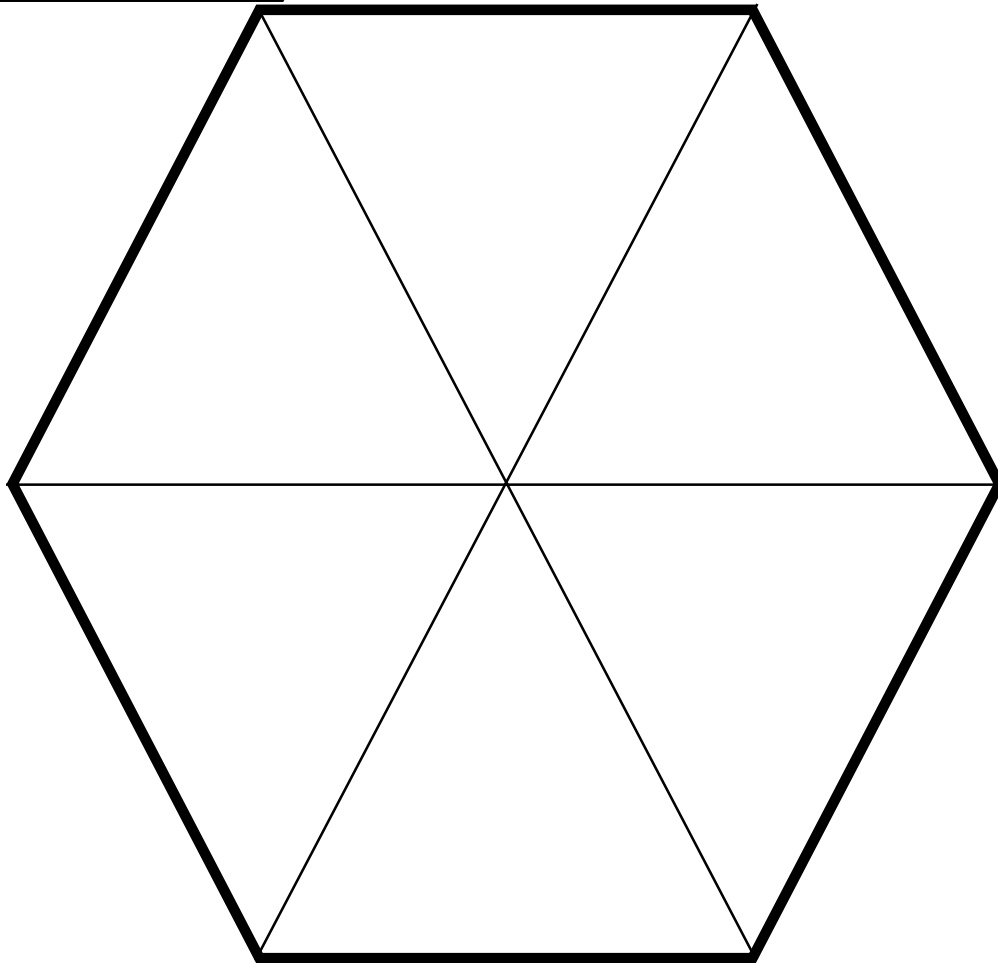
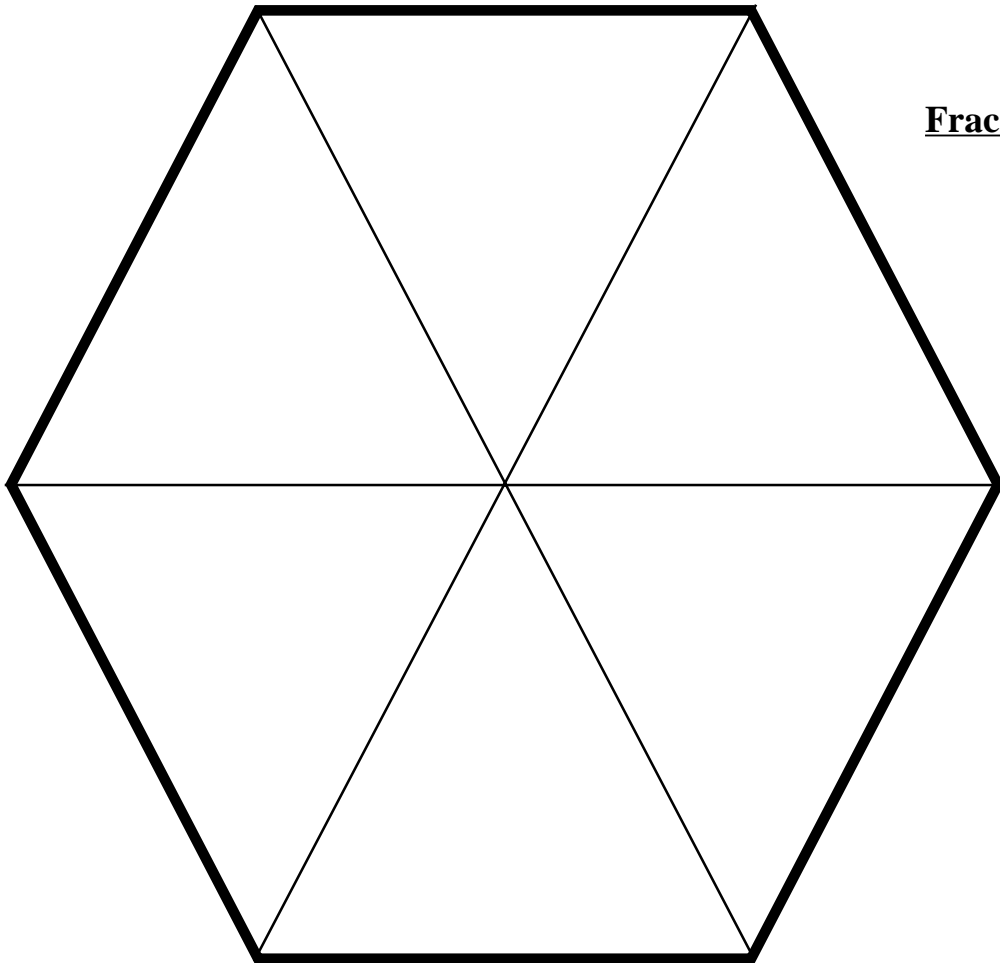
Make new number cubes. Let the numerator cube contain numbers 5-10 and the denominator cube contain numbers 5, 8, 10, 12, 17, 20. Complete the chart and answer the questions below.

- Find the probability that the numerator is divisible by 2. by 5. _____
- Find the probability that the denominator is divisible by 2. by 5. _____
- Find the probability that the numerator is divisible by 2 or 5. _____
- Find the probability that the denominator is divisible by 2 or 5. _____
- Find the probability that the numerator is divisible by 2 and 5. _____
- Find the probability that the numerator is divisible by 2 and the denominator is divisible by 5. _____
- Find the probability that the denominator is divisible by 2 and the numerator is divisible by 5. _____
- Roll your number cubes 60 times and record the fractions you created. How do the experimental results compare with the theoretical probabilities?

Fraction Cubes and Probability



Fraction Cubes and Probability

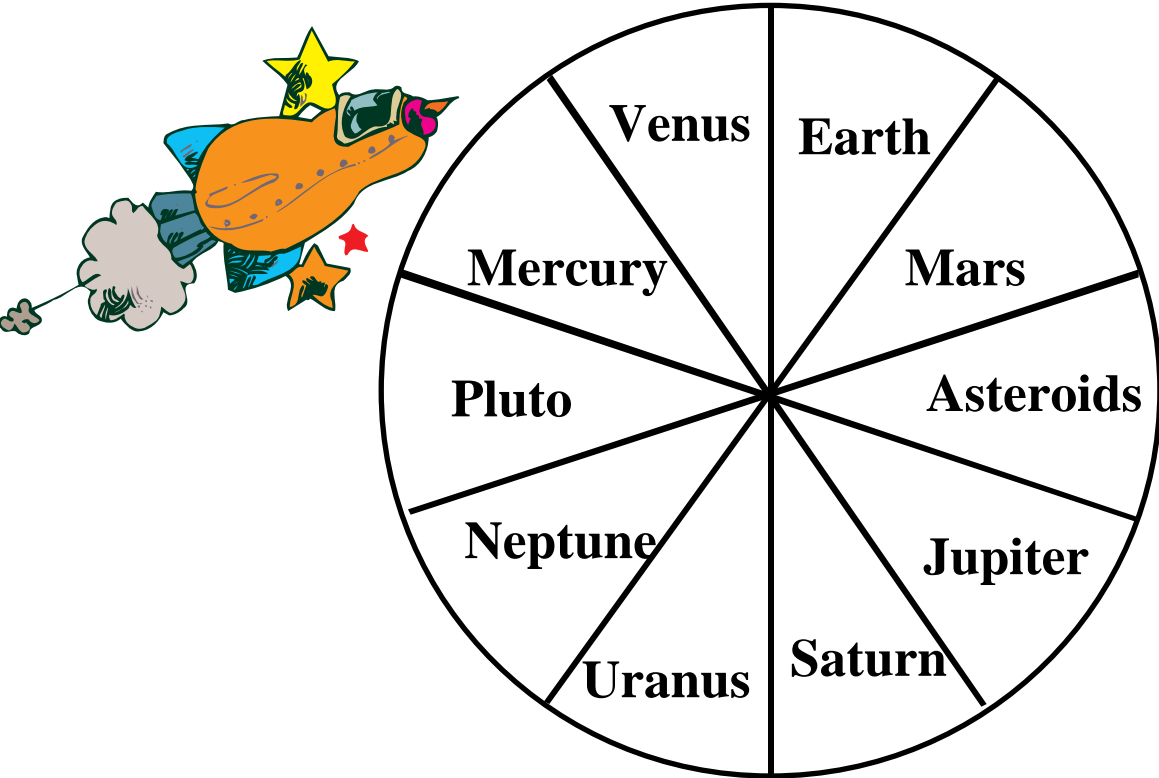


Planet Collector Cards

Captain Krypton cereal comes with a super-duper 3-d holographic planet picture card in each box. There are 10 cards in all, one for each planet, and one for the Asteroid Belt. You want to collect them all. How many boxes of cereal will you need to buy? Do you think you could get the entire set by buying only ten boxes? Do the experiment below to find out.

Use the spinner below to determine which card you get when you buy a box of Captain Krypton cereal. Each time you spin, put a tally mark by that planet's name. When you get at least one mark for each of the cards, count how many times you had to spin. This is an experimental result for how many boxes of cereal you would have to buy to get the entire set.

Do the experiment three times. Result from trial 1: _____ 2: _____ 3: _____



	Mercury	Venus	Earth	Mars	Asteroids	Jupiter	Saturn	Uranus	Neptune	Pluto
1)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
2)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
3)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

Planet Collector Cards (cont.)

Combine your three trials with those of everyone else in the class.

What is the median number of boxes required?

What is the mean number of boxes required?

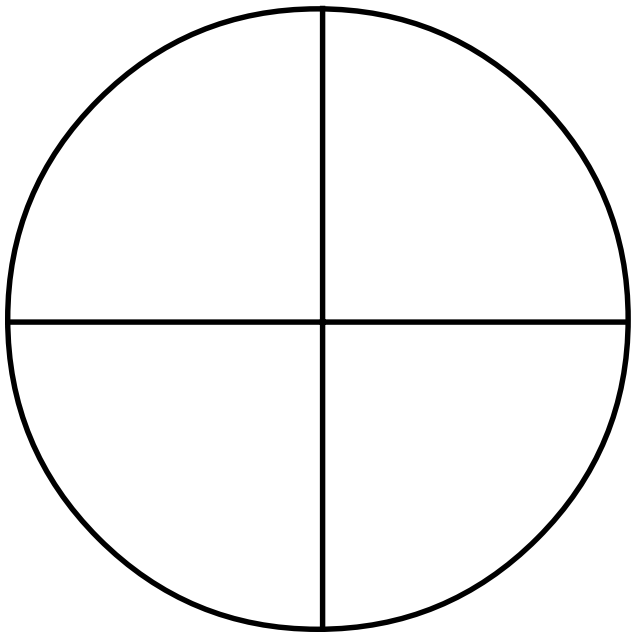
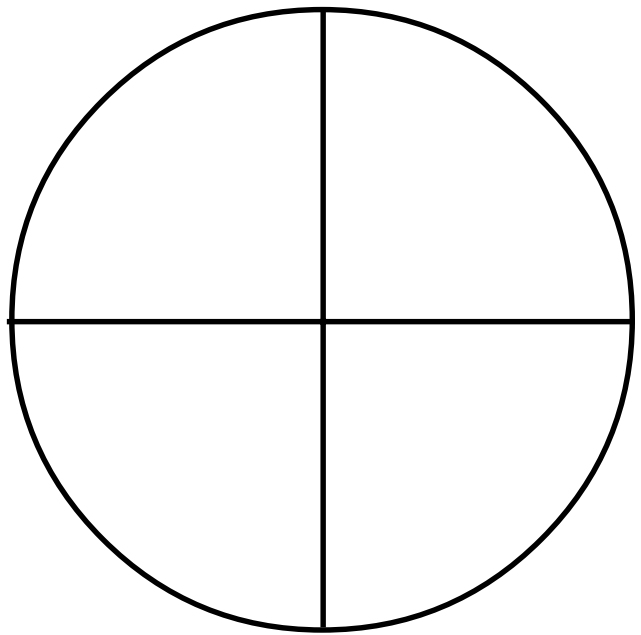
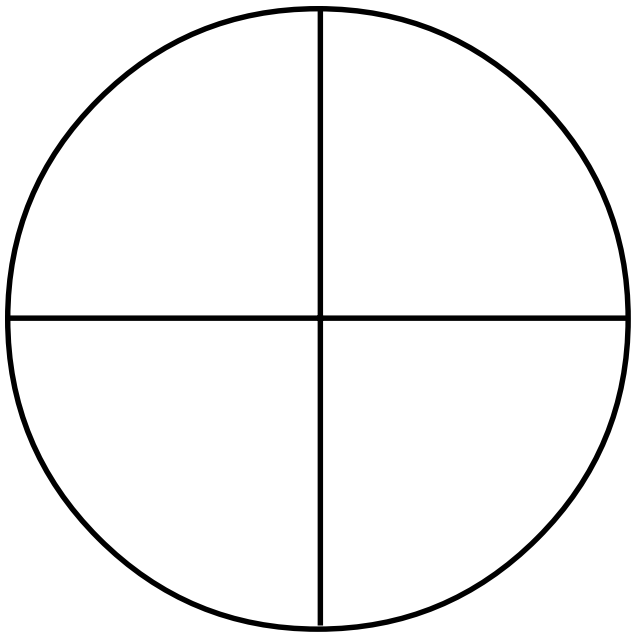
Is there a mode number of boxes required?

Complete the frequency distribution table below. If necessary, extend the chart.

Boxes bought	How many different cards?
10-14	_____
15-19	_____
20-24	_____
25-29	_____
30-34	_____
35-39	_____
40-44	_____
45-49	_____

Make a statement about how many boxes you could expect to buy to collect the entire set of cards.





HIGH ROLLERS

Complete the chart for the sample space for rolling two, fair number cubes.

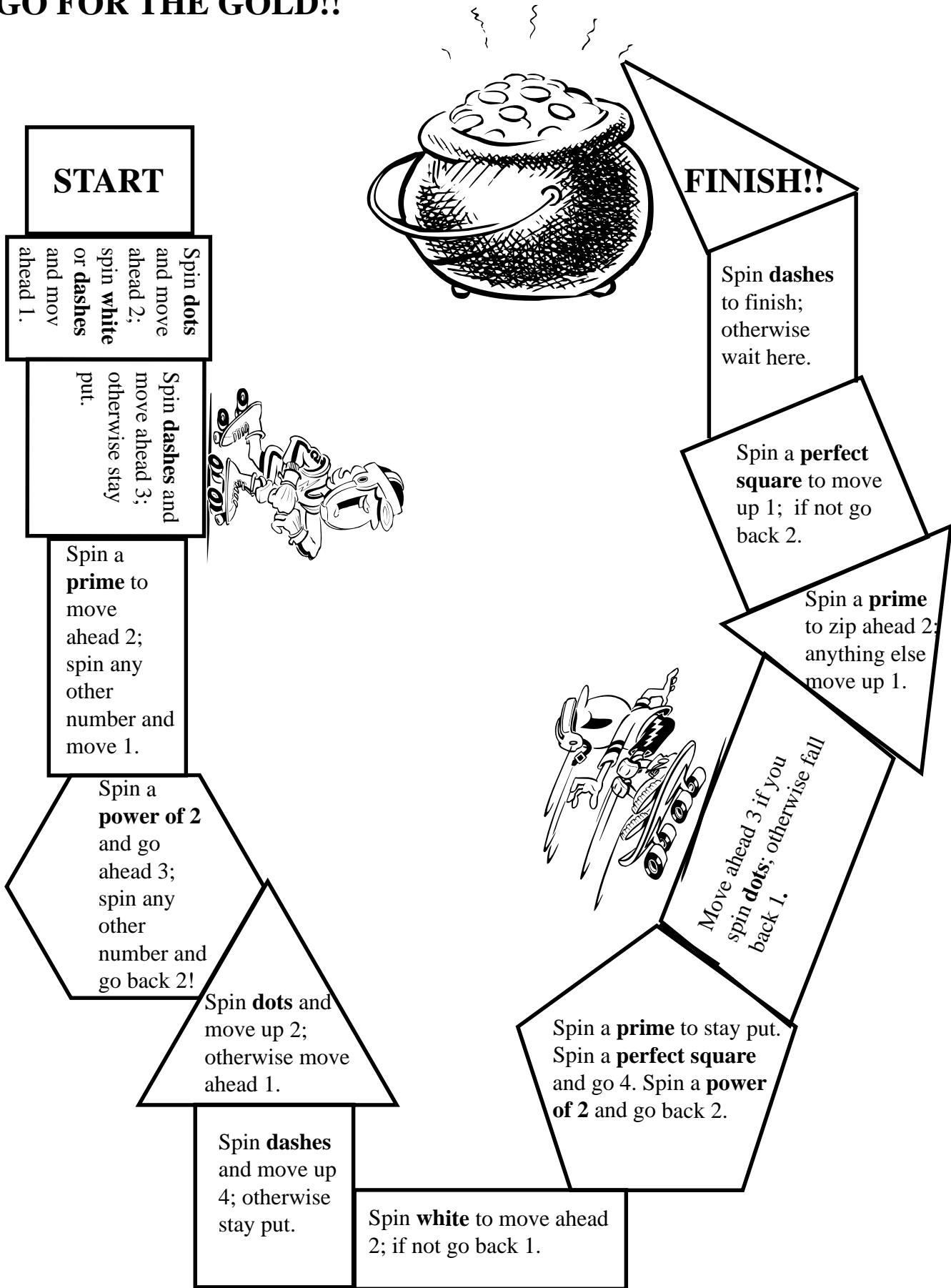
	1	2	3	4	5	6
1	(1,1)	(1,2)				
2						
3						
4						
5						
6						

Determine these probabilities:

- 1) P(rolling an even sum) = _____
- 2) P(2 on a single cube) = _____
- 3) P(a sum of 7) = _____
- 4) P(sum is a prime) = _____
- 5) P(sum < 10) = _____
- 6) P(sum is a perfect square) = _____
- 7) P(sum is a power of 2) = _____
- 8) P(sum is a factor of 100) = _____



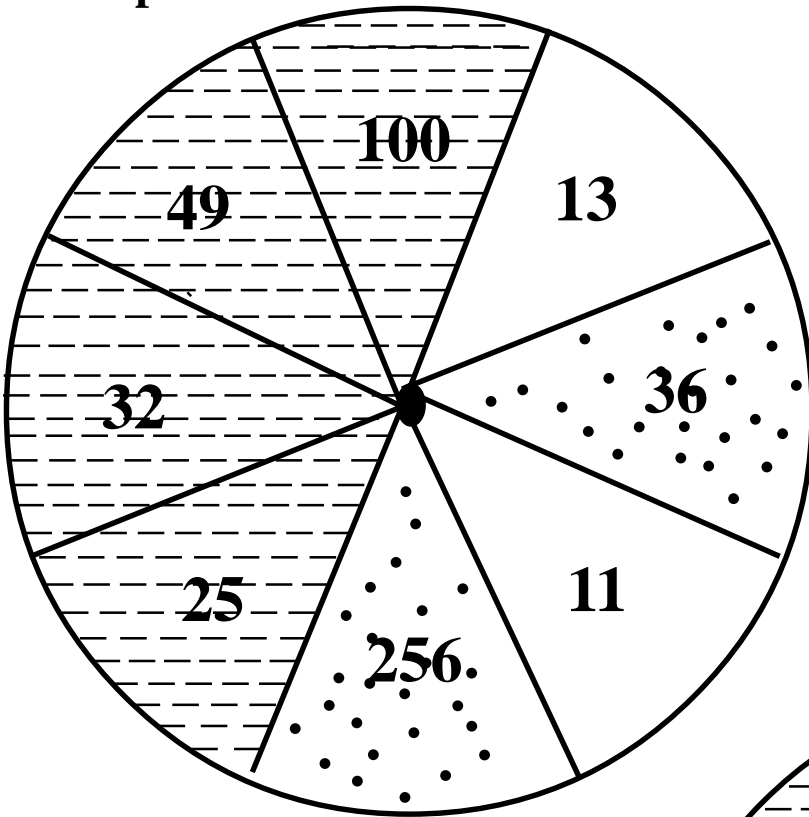
GO FOR THE GOLD!!



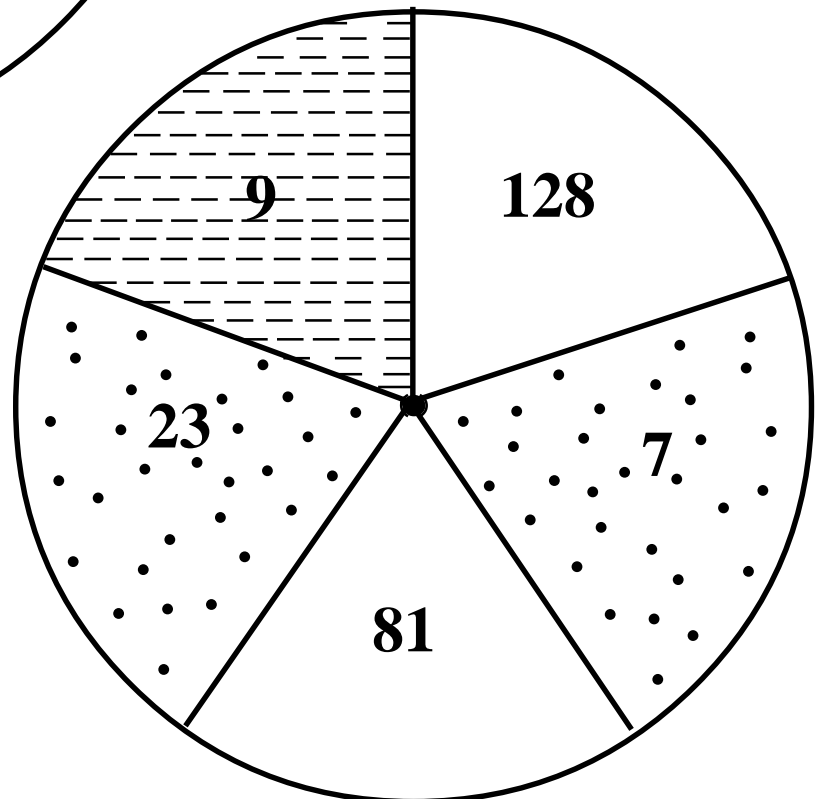
Practice your probability skills as you GO FOR THE GOLD!!

You may choose to use either spinner for each turn.

Spinner A



Spinner B



Spinner 1

Sample Space:

{ _____ }

P(Spinning a 1)	
P(Spinning a number > 5)	
P(Spinning an even number)	
P(Spinning an odd number)	
P(Spinning a prime number)	
P(Spinning a number < 3)	
P(Spinning a 6)	

Spinner 2

Sample Space:

{ _____ }

P(Spinning a 1)	
P(Spinning a number > 5)	
P(Spinning an even number)	
P(Spinning an odd number)	
P(Spinning a prime number)	
P(Spinning a number < 3)	
P(Spinning a 6)	