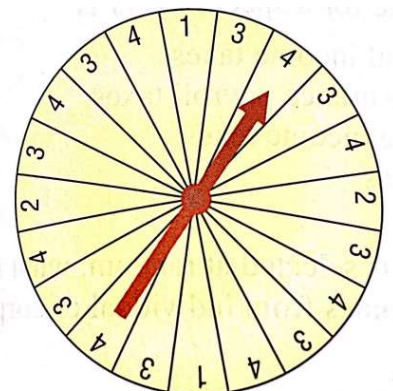


1. If the probability that it will rain tomorrow is 0.20, what is the probability that it won't rain tomorrow? Would you recommend taking an umbrella?
  
2. A probability experiment is conducted. Which of these cannot be considered a probability outcome?
 

a. $\frac{2}{3}$	b. 0.63	c. $-\frac{3}{5}$	d. 1.65	e. -0.44
f. 0	g. 1	h. 125%	i. 24%	
  
3. Classify each statement as an example of classical, empirical, or subjective probability.
  - a. The probability that a person will watch the 6 pm evening news is 0.15.
  - b. The probability of winning at a Chuck-a-Luck game is  $\frac{5}{36}$ .
  - c. The probability that a bus will be in an accident on a specific run is about 6%.
  - d. The probability that the unemployment rate will fall next month is 0.03.
  
4. If a die is rolled one time, find the probabilities.
  - a. Getting a 2
  - b. Getting a number greater than 6
  - c. Getting an odd number
  - d. Getting an odd or even number
  
5. If two dice are rolled one time, find these probabilities.
  - a. A sum of 9
  - b. A sum of 7 or 11
  - c. Doubles
  
6. If one card is drawn from a deck, find the probability of getting these results.
  - a. A queen
  - b. A club
  - c. A queen of clubs
  - d. A 3 or an 8
  - e. A 6 or a spade
  
7. A shopping mall has set up a promotion as follows. With any mall purchase of \$50 or more, the customer gets to spin the wheel shown here. If a number 1 comes up, the customer wins \$10. If the number two comes up, the customer wins \$5; and if the number 3 or 4 comes up, the customer wins a discount coupon. Find the following probabilities.
  - a. The customer wins \$10.
  - b. The customer wins money.
  - c. The customer wins a coupon



8. Human blood is grouped into four types. The percentages of Americans with each type are listed below
- |       |       |       |       |
|-------|-------|-------|-------|
| O 43% | A 40% | B 12% | AB 5% |
|-------|-------|-------|-------|

Choose one American at random. Find the probability that this person

- Has type O blood
  - Has type A or B
  - Does not have type A or B
9. A prime number is a number that is evenly divisible only by 1 and itself. The prime numbers less than 100 are listed below.

2	3	5	7	11	13	17	19	23	29	31	37	41	43
47	53	59	61	67	71	73	79	83	89	97			

Choose one of these numbers at random. Find the probability that

- The number is even
  - The sum of the number's digits is even
  - The number is greater than 50
10. A couple has three children. Find each probability.
- All boys
  - All girls or all boys
  - Exactly two boys or two girls
  - At least one child of each gender
11. In the game of craps, a player loses on the roll if a 2, 3, or 12 is tossed on the first roll. Find the probability of losing on the first roll.

12. The total arrests for property crimes in the US in a recent year were itemized as follows.

Larceny/theft	1,334,933	Burglary	299,351	Motor vehicle theft	81,797	Arson	12,204
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Choose one arrest at random:

- what is the probability that it was for burglary?
  - What is the probability that it was not for larceny/theft?
13. Four balls numbered 1 through 4 are placed in a box. A ball is selected at random, and the number is noted: then it is replaced. A second ball is selected at random, and its number is noted. Draw a tree diagram and determine the sample space.