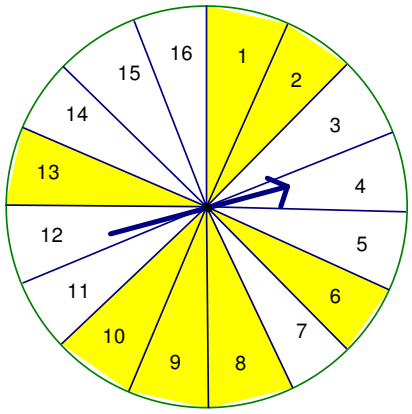
Senior Analysis Name _____

Probability Lecture 9



Assume that after spinning the pointer, its chance of stopping in any one region is just as great as its chance of stopping in any of the other regions, and that it does not stop on a line. Find the probabilities:

1. P (odd)
2. P (multiple of 3)
3. P (white)
4. P (7 or 11)
5. P (Even and Red)
6. P (No more than 7)
7. P (Prime)
8. P (Red and between 3 and 10)

Use this sample space for the tossing of a pair of dice to find the probability of each event.

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

9. Both dice show the same number.
10. The sum is 11
11. The sum is 7
12. The sum is 7 or 11
13. The sum is not 7
14. The sum is an odd number.

Two cards are drawn from a deck of 52 playing cards without replacement. Find the probability of each event.

15. Both cards are red
16. Both cards are spades
17. Both cards are the ace of hearts.
18. Both cards are the same suit (hint: a successful outcome is to have both cards spades or both hearts or both diamonds or both clubs. The sum of these probabilities gives the solution.

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Probability Lecture 10

Two cards are drawn from a deck of 52 playing cards with the first card replaced before the second card id drawn. Find the probability of each event.

1. Both cards are black or both are red.
2. Both cards are hearts
3. Both cards are picture cards
4. Neither card is an ace
5. Neither card is a spade.
6. The first card is an ace and the second card is a king.

A bag of marbles contains 8 red marbles and 5 green marbles. Three marbles are drawn at random at the same time. Find the probability of each event:

7. All are red
8. All are green
9. Two are red and one is green

A die is tossed three times in succession. Find the probability that

10. All three tosses show 5
11. Exactly one of the tosses shows 5
12. At least one of the tosses shows 5.

Use P(not E) = 1 – P(E)

13. Two cards are drawn simultaneously from a deck of playing cards. Find P (not two red cards).
14. Three cards are drawn simultaneously from a deck of playing cards. Find P (not three hearts)