AFM Probability Test Practice Test



Evaluate the following. Show all work.

- 1. Combination of 15 objects taken 5 at a time. 3003
- 2. Permutation of 8 objects taken 3 at a time. 336
- 3. Combination of 5 objects taken 5 at a time. 1
- 4. Permutation of 5 objects taken 5 at a time. 120

State whether each problem would use a combination or permutation. Do not solve the problem.

- 5. __1256640_____ In a class of 35, the teacher selected a reader, and actor, a writer, and a singer. How many ways can the teacher arrange the groups?
- 6. _____6.09 x 10¹⁰______A baseball team's line-up consist of 9 players. 20 people try out for the team. How many ways can a coach create the line-up?
- 7. 53524680 Seven numbers are selected for a lottery ticket. Out of the 46 possible numbers that will be drawn, how many tickets could you buy if you want to make sure you win the lottery?
- The Senior class of 20 students selects 10 8. 184756 members for the Homecoming Court. How many ways can they create a ten member court?
- 9. How many ways can you select a security code on a home alarm system if the alarm has a number pad with the digits 0-9 on them, and your code must be 5 digits long and numbers can repeat?

100000

10. The Home Security department decides they need to add 2 letters to the end of the 4 digit security card number. How many numbers can Home Security issue if the numbers and letters can be repeated?

6760000

11. If you flip three coins...

a. What is the sample space of this event? hhh, hht, hth, thh, ttt, tth, tht, htt, ttt	
b. P(l head)	c. P(at most 2 tails)
37.5%	87.5%
d. P (at least one tail)	e. P (4 heads)
87.5%	0%
12. If you roll 2 dice at the same time	

a. P(sum 4) b. P(sum 11 or sum 7) c. P(sum 13) 8.33% 22.2% 0%

d. Probability you roll a sum of 6 or at least one die shows a 5?

38.89%

13. Why is 7 considered a lucky number?

When you roll two dice, the probability the sum is seven is the highest



14. Out of 52 standard cards, with no replacement...

a. P (Red, Black, Black, Red)

6.5%

b. P(King, King, King)

0.0181%

c. P(2, 4, odd numbered card)

0.193%

15. Selecting one card out of a 52 card deck...

- a. P(Black or a 9) 53.85%
- b. P(K or 4) 15.4%
- c. P (2 or red) 53.85%
- 16. A basketball player shoots 73% of his or her free throws. If they are given 2 free throws...

a. P(0) = 7.29%
b. P(1) = 39.42%
c. P(2) = 53.29%
Average Points per trip to the line? 1.46

17.

The following corn maze was designed by a local corn farmer. The farmer will charge \$6 per entry. If you successfully complete the maze without making any mistakes, you will win \$100. 300 people come through the maze in the first night. How much profit can the farmer predict he will make by the end of the evening?



18. What is the probability of getting 2 tails if you flip 12 coins?

1.61%

19. What is the probability you are dealt 2 cards and they are all the same suit?

23.52%