

AFM Probability Unit Assessment

Name: _____

Date: _____

1. Which of the following sets of events are considered independent events?
- A. Drawing a ten from a deck of cards, not replacing the card, and then drawing another card
 - B. Selecting a red marble from a bag, and then tossing a coin
 - C. Earning all A's, and getting into college
 - D. Pulling a brown sock out of a drawer without replacing it, then pulling another brown sock out.

2. Evaluate the factorial.

5!

- A. 14 B. 15 C. 80 D. 120

3. Jamie bought five house-numbers at the local hardware store. The numbers are: 1, 2, 3, 4, 5. How many different three-digit house-numbers can she form that are greater than 300?

- A. 24 B. 12 C. 10 D. 36

4. What is the number of different arrangements of the word 'SECONDARY' if the first letter must be D and the last letter must be C?

- A. 308,460 B. 84,605
C. 40,320 D. 5040

5. The student council has 15 members. If the first person selected is the president, the second is the vice president and the third is treasurer, in how many ways can the officers of the board be chosen?

- A. 15! B. 45 C. 445 D. 2,730

6. The school cafeteria offers a variety of foods as shown in the table.

<i>meat</i>	<i>side dish</i>	<i>drink</i>	<i>dessert</i>
burritos	beans	juice	ice cream
hamburgers	fries	milk	jello
chicken	rice	soda	pie
fish		tea	
pizza			

How many different meals can be ordered consisting of 1 meat, 1 side dish, 1 drink, and 1 dessert?

- A. 180 B. 120 C. 20 D. 12

7. In a group of 5 boys and 4 girls what is the probability of selecting a group of 3 people, if that group must have 2 boys and 1 girl? (Answer to 3 decimal places.)

- A. 0.111 B. 0.333 C. 0.100 D. 0.253

8. A box contains 10 red balls, 6 blue balls and 4 green balls. 9 balls are drawn all at once. What is the probability that 4 blue balls, 3 red balls, and 2 green balls are drawn? (Answer to 3 decimal places.)

- A. 0.279 B. 0.058 C. 0.117 D. 0.234

9. If 8 coins are all tossed at once, what is the probability that 5 heads and 3 tails turn up? (Answer to 3 decimal places.)

- A. 0.219 B. 0.375 C. 0.324 D. 0.175

10. Miguel has 3 pennies, 6 nickels and 8 dimes in his pocket. If 4 coins are randomly selected, what is the probability of drawing out 2 dimes and 2 nickels in any order? (Answer to 2 decimal places.)

- A. 0.18 B. 0.21 C. 0.36 D. 0.30

11. How many different outfits can Joan make from 6 pairs of pants, 3 shirts, and 2 pairs of socks? Explain.

12. How many different ways can you play your five favorite songs?

13. A group of 12 people need to form a line. The line will consist of exactly 9 of the people. Person X and Person Y have to be either third or fourth in line. How many different orders are possible?

- A. 79,833,600 B. 1,209,600
C. 604,800 D. 362,880

14. A manufacturing plant produces a special kind of lightbulb.

- Each lightbulb produced has a 0.040 probability of being defective.
- Five lightbulbs are chosen at random from the production line.

To the nearest thousandth, what is the probability that exactly two of the five bulbs will be defective?

- A. 0.014 B. 0.016 C. 0.018 D. 0.020

1.
Answer: B
Objective: S.CP.5
Points: 1

2.
Answer: D
Objective: S.CP.9
Points: 1

3.
Answer: D
Objective: S.CP.9
Points: 1

4.
Answer: D
Objective: S.CP.9
Points: 1

5.
Answer: D
Objective: S.CP.9
Points: 1

6.
Answer: A
Objective: S.CP.9
Points: 1

7.
Answer: B
Objective: S.CP.9
Points: 1

8.
Answer: A
Objective: S.CP.9
Points: 1

9.
Answer: A
Objective: S.CP.9
Points: 1

10.
Answer: A
Objective: S.CP.9
Points: 1

11.
Answer: 36 outfits
Objective: S.CP.9
Points: 1

12.
Answer: 120 ways
Objective: S.CP.9
Points: 1

13.
Answer: B
Objective: 1.03.b
Points: 1

14.
Answer: A
Objective: 1.03.f
Points: 1