**Mathematics 3201**

**Make-Up Test (Unit 3) Probability**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| --- |
| **FORMULAES** |
|  |

**Part A :** Place the letter corresponding to the correct answer to each of the following in the appropriate

 blank at the right.

1. The weather forecast is calling for a 30% chance of snow for Christmas. What are the odds in 1. \_\_\_\_

 favor of **NOT** having snow for Christmas?

 (A)  (B) 

 (C)  (D) 

2. There are 12 candy in a bowl : **4 jelly beans, 3 candy canes,** and **5 jolly ranchers**. If 3 candy 2. \_\_\_\_

 are selected, what is the probability selecting a jolly rancher, a candy cane and a jelly

 bean in this order if the candy selected are not replaced?

 (A)  (B) 

 (C)  (D) 

3. The odds in favor of you passing this Math test is . As a percent what is the probability 3. \_\_\_\_

 of you passing ?

 (A)  (B) 

 (C)  (D) 

4. A student has a four colored spinner and a six sided die with each side numbered one 4. \_\_\_\_

 through six. What is the probability of rolling a number less than 4 and the color green

 on the spinner?

 (A)  (B) 

 (C)  (D) 

5. Nick, Sarah and four other students are competing in a cross country race. What is the 5. \_\_\_\_

 probability that Nick finishes first and Sarah finishes second in the race ?

 (A)  (B) 

 (C)  (D) 

6. Dan has a 40% probability of passing Math this year and a 70% probability of getting a job 6. \_\_\_\_

 for the summer. What is his probability of him **NOT** passing Math and getting a job?

 (A)  (B) 

 (C)  (D) 

7. The Student Council at Mealy Mountain is having a Christmas contest. If a student spins the 7. \_\_\_\_

 spinner twice and gets two 4’s, they win. What are the odds of a student winning ?

 

 (A)  (B) 

 (C)  (D) 

8. A deck of 40 cards consists of 4 different colored sets: red, blue, green and yellow. Each 8. \_\_\_\_

 set is numbered from 0 to 9 as shown below. If two cards are randomly picked from the

 deck, what is the probability that the first card is blue or green and the second card is a 5,

 if the first card is replaced?

|  |  |  |  |
| --- | --- | --- | --- |
|  | Card Colour | Cards |  |
|  | red |  |  |
|  | blue |  |  |
|  | green |  |  |
|  | yellow |  |  |

(A)  (B) 

(C) (D)

8. At a traffic the red light is on for 30 seconds, amber for 5 seconds and green for 45 seconds. 8. \_\_\_\_

 What is the probability of arriving at the light and the light is red?

 (A)  (B) 

 (C)  (D) 

9. There are 40 students in a class where 25 students surf the internet and 15 uses email. 9. \_\_\_\_

 Of these 10 students do both. What is the probability that a randomly selected student

 in the class do **NOT** surf the internet or use email?

 (A) 25% (B) 37.5%

 (C) 50% (D) 75%

10. In a bag there are 2 white marbles and 3 yellow marbles. In a second bag there are 2 green 10. \_\_\_

 and 1 orange marble. What is the probability of drawing 1 white marble and 1 green marble?

 (A)  (B) 

 (C)  (D) 

11. A and B are mutually exclusive events. The probability of A, , is 25% and the 11. \_\_\_

 probability of B, , is 60%. What is the probability of A or B,  not occurring?

 (A) 15% (B) 35%

 (C) 40% (D) 85%

**Part B** **:** Answer all questions and show your workings.

1. A golf bag contains 6 white balls and 8 yellow balls. What is the probability of each event if the balls

 randomly selected are not placed back into the bag?

 i) Choosing 3 yellow balls. **(2 marks)**

 ii) Choosing 2 white balls and a yellow ball in this order. **(2 marks)**

2. Four people are randomly selected for a group of 8 boys and 6 girls. What is the probability of each

 event ?

 (A) All 4 people are boys. **(3 marks)**

 (B) At least 3 people will be girls. **(3 marks)**

3. The probability of a student completing their Math assignment is . The odds that she will pass

 her Math test is . What is the probability that she will complete her Math assignment and not

 pass her Math test? **(3 marks)**

4. There are 100 boys and 120 girls in Grade 12. Twenty boys and thirty girls own a ski doo. If a

 student is randomly selected:

 i) What is the probability the student owns a ski doo? **(1.5 marks)**

ii) What is the probability that the student having their own ski doo is a girl? **(1.5 marks)**

5. Mr. Math is teaching Math 3201 this year and based on previous test scores there is a 70% chance a

 student will pass a test if it rains the night before and a 20% chance if it’s sunny the night

 before. For Friday’s test the forecast for Thursday night is a 70% chance of sunny weather. What is

 the probability that a student will pass Friday’s test?

 **(3 marks)**



6. The music group at Mealy Mountain Collegiate is raising money for a trip to Nova Scotia. They sell

 5000 tickets on two prizes:

 **1st Prize $1500 Cash**

 **2nd Prize A CD playing all their musical talent**

If Mr. Math has 150 tickets, what is the probability of him winning both prizes if the first ticket

 drawn is **NOT** replaced? **(3 marks)**

7. A box contains the letters **A, B, G, H, M, N** and **T**. What is the probability of randomly selecting

 4 letters and getting **M, A, T, H** in this order. **( 2 marks)**