GALLOP ROUND RULES

1. The Gallop Round will consist of 24 questions to be solved in 60 minutes.
2. The questions will be divided into 8 sets of 3 questions each, and you **must submit the answers to one set** before accessing the problems for the next. This means you must strategize when to submit each set (incomplete or not) to ensure you get access to as many questions as possible.
3. Once you submit the answer form for one of the sets, the password for the next set will be on the form submission screen, so make sure you note it down, otherwise you may waste valuable time getting the password from us!
4. The problems will get progressively more difficult, and later problems will be worth more points.
5. Submissions will be scored immediately and a live score of all participating teams will be available during the competition. Prepare for the adrenaline rush!

GALLOP SET 2

11 points per question

4. Evan the bunny likes hopping. Evan can hop North, South, West or East. The probability that Evan hops North is $\frac{1}{5}$. Evan is twice as likely to hop to the East than to hop to the West. Evan is just as likely to hop North or South than to hop East or West. What is the probability that Evan makes these hops in order: North, East, South, South, West?

5. Steven has to print worksheets for Mr. Boyd's APES class. He can print them out in black-and-white or color. Each sheet that's printed in black and white takes 5 mL of black ink and each sheet that's printed in color takes 3 mL of black ink and 4 mL of colored ink. If he has 53 mL of black ink available and 36 mL of colored ink available, and given that he must use all of the black ink, what is the maximum number of colored sheets that he can print?

6. Evan builds a scalene triangle with integer side lengths. We know that two of the side lengths of his triangle are of length 13 and 21. If the third side is chosen uniformly at random, what is the probability that the third side length lies between the numbers 19 and 29 inclusive? Express your answer as a simple common fraction.