

Team # _____

Round 1

Score _____

1. Belle has read 45 books in a library with 900 books. What is the percentage of books she's read in the library?
 2. In Arendelle, there are 498 villagers. There are 188 villagers who own a horse and 63 villagers who own a shop. 297 own neither a horse nor a shop. How many villagers own both a horse and a shop?
 3. Standing on Pride Rock, Mufasa has a visibility of 5 miles in every direction. What is the total area he can see (in square miles)? (Leave your answer in terms of pi)
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Team # _____

Round 2

Score _____

1. Rapunzel is sprinting on her horse Maximus. She is able to cover 30 meters in 5 seconds. How many kilometers will she be able to cover in an hour?
 2. Tiana is selling soup in cylindrical cans. Marketing research suggests that using wider cans will increase sales. If the diameter of the jars is increased by 25% without altering the volume, by what percent must the height be decreased?
 3. Mulan's sword case is a rectangular prism that is 5 feet long, 2 feet wide, and has a volume of 20 feet cubed. What is the surface area of the sword case (answer in feet²)?
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Team # _____

Round 3

Score _____

1. Winnie the Pooh rolls a 4-sided die (sides are numbered 1,2,3,4) 4 times. What is the probability that he never rolls a 4? Answer as a fraction.
 2. Merida is shooting at a target. The first circular ring is centered around the bull's eye and has a radius of 3 feet. The second circular ring is also centered around the bull's eye and has a radius of 5 feet. What is the area between the first and second rings? (answer in terms of pi)
 3. It takes six hyenas six minutes to catch six antelopes. How long will it take two hyenas to catch 12 antelopes?
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Round 4

Score _____

1. The profit Aladdin's Market makes in one day can be depicted by this polynomial, $p = 6x^2 - 4x + 32$, where P is profit and x represents the number of customers. How much money does Aladdin's Market make if they receive 20 customers in one day?
 2. In Aurora's bouquet of pink, yellow, and blue flowers, all but 6 are pink flowers, all but 8 are yellow flowers, and all but 4 are blue flowers. How many flowers are in her bouquet?
 3. Sid the sloth is stuck on a rectangular sheet of ice that has a perimeter of 50 ft. The length of the diagonal is 20 ft. What is the area of the sheet of ice?
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Team # _____

Round 5

Score _____

1. How many digits are in the number $25^{33} \times 32^{14}$?
 2. In Zootopia there are 90 houses each numbered between 10-99. How many of those houses have a number such that the two digits in the number sum to a perfect square?
 3. Pepita, the animal spirit guide in the movie Coco, is flying through the Land of the Dead. Pepita flies at the speed of $(21^2 - 4) / 19$. How fast is Pepita flying?
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Team # _____

Round 6

Score _____

1. A fish tank has a rectangular base that measures 100cm x 400 cm and has a height of 50 cm. The tank is filled with water to a depth of 37 cm. Nemo, a clownfish, is added to the tank and is completely submerged in the water. Nemo has a volume of 1000 cm^3 . By how many centimeters does the water level rise in the tank?
 2. Working in pairs, Tinker Bell and Hank can assemble a gear in 2 hours, Tinker Bell and Bobble can assemble a gear in 3 hours, and Bobble and Hank can do the same job in 4 hours. How many hours will it take for Tinker Bell, Hank, and Bobble if they work together to assemble a gear? Express your answer as a common fraction.
 3. Woody is trying to sort his toys. When he arranges his toys into piles with 11 toys each, there are 9 toys left over. When he arranges his toys into piles with 9 toys each, there are 8 left over. When he arranges his toys into piles with 10 toys, there are two left over. What's the least possible amount of toys Woody has?
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Team # _____

Round 7

Score _____

1. Mulan is firing cannons at the Huns. She has a 25% chance of hitting a Hun on each fire. If she fires the cannon 4 times, what is the probability she'll hit exactly twice? Answer in a fraction in simplest form. (2 points)
 2. Alice finds a chessboard in Wonderland. She randomly chooses two squares on the 8x8 chessboard. What is the probability the two squares she chose share a side?
 3. If $x + \frac{1}{x} = 3$ what is the value of $x^4 + (\frac{1}{x})^4$?
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Team # _____

Round 8

Score _____

1. Ralph is trying to break the internet. In order to do so, he must enter a 4-digit passcode. The digits in the passcode are all different. The leading digit is not zero, the integer of the passcode is a multiple 5, and 5 is the largest digit in the passcode. How many possible passcodes are there?
2. Pocahontas is building a fenced area for her raccoon Meeko along a river. She wants to make sure the raccoon has 36 ft² of land in the fenced area. Since the river encloses one side, Pocahontas only needs to fence 3 sides. What is the minimum amount of fencing required for Pocahontas to create a play area for her Meeko?

