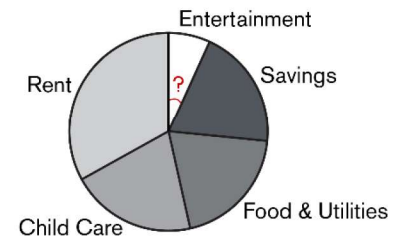**Team 1**   What is the maximum number of cubes of edge length 2 inches that will fit inside a rectangular box whose interior measures 1 foot by 14 inches by 16 inches?

Team 2   Ms. Short has a monthly income of $4875. She budgets $1625 a month for rent, $975 for child care, $975 for savings, $975 for food and utilities, and the rest for entertainment. Ms. Short constructs a circle graph, like the one shown here, to represent her monthly budget. How many degrees are in the central angle of the sector representing entertainment?

Team 3   An octopus has 8 tentacles and 1 head. A jellyfish has 20 tentacles and no head. A cow has 4 legs and 1 head. Farmer Phil, who only raises octopi, jellyfish and cows on his farm, has animals with a total of 17 heads, 196 tentacles and 20 legs. How many animals does he have?

Team 4   Manu recorded the statistics shown at last night's basketball game. The percents were rounded to the nearest whole number, and only whole numbers of shots could be successful. What percent of the 45 attempted shots were successful?

Player	2-Point Shots Attempted	2-Point Shots % Successful	3-Point Shots Attempted	3-Point Shots % Successful
Lisette	15	67%	5	40%
Sara	10	80%	2	50%
.	.	75%	1	0%
		33%	2	50%

Team 5   How many integers are solutions to the equation $(x - 2)^{(25 - x^2)} = 1$?

Team 6   A cylindrical can contains three tennis balls. The diameter of each tennis ball is 8 cm. If the tennis balls fit snugly against the interior of the can and against the top and bottom of the can, as shown, how many cubic centimeters of empty space are in the can? Express your answer in terms of π. (Hint: The formula for the volume of a sphere is $V = (4/3)\pi r^3$, and the formula for the volume of a cylinder is $V = \pi r^2 h$.)

Team 7   Three friends shared a full bag of jellybeans. Caleb took 1/3 of the jellybeans in the full bag, Zara took 1/2 of the jellybeans in the full bag and Kris took what was left. Caleb ate 1/2 of his jellybeans, Zara ate 1/3 of her jellybeans and Kris ate all of his. If Caleb and Zara were left with a combined total of 45 jellybeans, how many jellybeans did Kris eat?

Team 8   The positive integer divisors of 175, except 1, are arranged around a circle so that every pair of adjacent integers has a common factor greater than 1. What is the sum of the two integers adjacent to 7?

Team 9   How many distinct five-digit positive integers can be formed using the digits 2, 3, 4, 7 and 8 if only the digit 2 can be used more than once?

Team 10   A bag contains 3 red balls, 4 green balls and 5 yellow balls. If balls are drawn one at a time without replacement, what is the probability that the first yellow ball is drawn on the eighth draw? Express your answer as a common fraction.