Name **Key**   Mon

Question 1: There are 250 students in each of the grades at Chamblee Middle School; 6th Grade, 7th Grade, and 8th Grade. A survey was conducted to find how many pets the students at Chamblee Middle School owned. The results are shown in the table below.

Number of pets	6th Grade	7th Grade	8th Grade	total
0	5	25	160	190
1	145	110	55	310
2	70	95	30	195
3	25	20	5	50
4	5	0	0	5
total	250	250	250	750

a. How many 7th graders own no pets? 25

b. How many of the students own exactly two pets? 195

c. What is the most common number of pets owned by students? 1 pet

d. Which grade level of students owns the least number of pets? 8th grade only has 90 pets.

e. What is the total number of 6th graders? 7th graders? 8th graders? Students? 750

f. What is the relative frequency of 8th graders with 1 pet? $55/750 \approx 7\%$

Question 2: Megan rolls a number cube and tosses a coin 200 times as part of an experiment. From her experiment, she records that a five was rolled 37 times and the coin landed on tails 107 times. On 88 occasions, neither a five was rolled nor did the coin land on heads. Complete the table.

	Five	Not a Five	Total
Head	18	75	93
Tail	19	88	107
Total	37	163	200

a. What is the relative frequency of tossing a tail, but not a five?

$$\frac{88}{200} = 44\%$$

Question 3: In an attempt to increase attendance, a local movie theatre is running a promotion in which they offer moviegoers either a free hot dog or a free box of popcorn with the cost of admission. On Saturday, 126 people attended the movies. Complete the table indicating the type of free snack selected by the patrons on Saturday.

	Popcorn	Hot Dog	Total
Boys	8	53	61
Girls	38	27	65
Total	46	80	126

a. What is the relative frequency of girls who got a hot dog? $27/126 = 21\%$

b. Give a statement that provides an interpretation of the data based on the table.

52% of the moviegoers were girls.

Question 4: A swim club has 112 members. Fifty-seven of these members are boys. Thirty of the members are girls who are under the age of 18 and 35 of the members are boys who are over the age of 18.

	Under 18	18 or Older	Total
Boys	22	35	57
Girls	30	25	55
Total	52	60	112

a) Complete the two-way table.

b) Determine how many members of the swim club are girls over the age of 18. 25

c) What is the relative frequency of boys who are under 18 on the swim team? $22/112 \approx 20\%$

d) Give a statement that provides an interpretation of the data based on the table.

There are more boys that are older than 18.

Question 5: Mr. Smith keeps a log of students who attend his after school tutorial. He divides these students into two categories; those who attend at most two tutorials in a month and those who attend more than two tutorials in a month.

a) Design a table, using Mr. Smith's categories, which he could use to show how many boys and how many girls attended his after school tutorials.

b) In one month 36 girls and 15 boys attended at most two of Mr. Smith's tutorials. In the same month 12 girls and 25 boys attended more than two of Mr. Smith's tutorials. Use Mr. Smith's monthly data to complete your table.

	2 or less	More than 2	total
Girls	36	12	48
Boys	15	25	40
total	51	37	88

c) What is the relative frequency of girls who attended at most two of Mr. Smith's tutorials for this month?

$$36/88 \approx 41\%$$

d) What is the relative frequency of boys who attended more than two of Mr. Smith's tutorials for this month?

$$25/88 \approx 28\%$$

Question 6: You randomly survey students in a school about whether they will dress up for Halloween this year. 6th Grade students: 28 dress up and 10 do not dress up 7th Grade students: 19 dress up and 16 not dress up 8th Grade students: Seven dress up and 10 not dress up

a. Make a two-way table including totals of the rows and columns.

	6th	7th	8th	total
dress	28	19	7	54
Nodress	10	16	10	36
total	38	35	17	90

b. For each grade level, what percent of the students in the survey will dress up? What percent of the students will not dress up? Organize the results in a two-way table. Explain what one of the entries means.

	6th	7th	8th	total
dress	31%	21%	8%	60%
Nodress	11%	18%	11%	40%
total	42%	39%	19%	100%

c. Does the table in part b show a relationship between grade level and willingness to dress up for Halloween? Explain your thinking.

Yes, it shows that the 6th grade is more willing because their % of students is the most, but 7th grade is close behind with 8th grade having about half the # of students interested.