Example 1

BYU's sports team is playing the University of Utah in a game this Saturday. Divide the members of the class according to which team they would like to see win, and then by gender. Record the data in a two-way table, and then answer the following questions. Round any decimals to the hundredths place, and round any percentages to the nearest whole number.

Teams

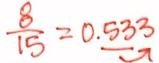| Gender	BYU	Utah	Totals
Female	9	6	15
Male	8	7	15
Totals	17	13	30

a) What fraction of BYU supporters are women?

$\frac{9}{17}$ $\boxed{\frac{9}{17}}$

b) What fraction of women are BYU supporters?

$\frac{9}{15}$ $\frac{9 \div 3}{15 \div 3} = \boxed{\frac{3}{5}}$

c) What percent of Utah supporters are men?

$\frac{7}{13}$ $\frac{7}{13} = 0.538461538$ $\boxed{54\%}$

d) Write the ratio of students that want Utah to win compared with the total number of students as a decimal.

$\frac{13}{30} = 0.43833...$ 13 0.43 30

e) What percent of men want BYU to win the game?

$\frac{8}{15}$ $\frac{8}{15} = 0.533$ $\boxed{53\%}$

Example 2

Divide the class according to whether they have brown eyes, and then by whether their birthday is in the first six months of the year or in the last six months of the year. Record the data in a two-way table, and then answer the following questions. Round any decimals to the hundredths place, and round any percentages to the nearest whole number.

Birthdays

eye		Jan - Jun	Jul - Dec	Totals
	Brown	6	4	10
	Not Brown	9	11	20
	Totals	15	15	30

a) What percent of students with brown eyes have birthdays from January to June?

$$\frac{6}{10} = 0.60 = \boxed{60\%} \quad 10 \qquad 6$$

b) What fraction of students with birthdays in July to December do not have brown eyes?

$$\boxed{\frac{11}{15}} \qquad 15 \qquad 11$$

c) Write the ratio of students that have brown eyes to the total number of students as a decimal.

$$\frac{10}{30} = 0.33333 \quad 10 \qquad \boxed{0.33} \quad 30$$

d) What percent of students whose birthday is in January to June have brown eyes?

$$\frac{6}{15} = \boxed{40\%} \qquad 15 \qquad 6$$

e) What fraction of total students are those who do not have brown eyes and their birthday is from July to December?

$$\frac{11}{30}$$