3. The two-way table below shows the number of students with each hair color and eye color.

		Hair Color				
		Black	Brown	Red	Blond	Total
Eye Color	Brown	7	12	3	1	23
	Blue	2	8	2	9	21
	Hazel	2	5	1	1	9
	Green	1	3	1	2	7
	Total	12	28	7	13	60

True or false? Provide data to support your claim.

a. Blonde students are more likely to have blue eyes than brown haired students.

Blonde with Blue eyes: $\frac{9}{13} = 0.69$

Brown hair with Blue eyes: $\frac{8}{28} = 0.29$

TRUE

$\frac{9}{13} > \frac{8}{28}$

b. Green eyed students are as likely to have brown hair as brown eyed students are to have red hair.

Green eyes Brown Hair: $\frac{3}{7} = 0.43$

Brown eyes Red Hair: $\frac{3}{23} = 0.13$

FALSE

$\frac{3}{7} \neq \frac{3}{23}$

c. Students are four times as likely to have brown hair as they are to have red hair.

Brown Hair: $\frac{28}{60}$

Red Hair: $\frac{7}{60}$

TRUE

$28 = (4)7$

d. Blonde haired students are much more likely to have light eyes (blue, hazel, green) than red haired students.

Blonde/Light eyes: $\frac{9+1+2}{13} = \frac{12}{13} = 0.92$

Red/Light eyes: $\frac{2+1+1}{7} = \frac{4}{7} = 0.57$

TRUE

$\frac{12}{13} > \frac{4}{7}$

e. Red haired students are less likely to have blue eyes than brown haired students.

Red/Blue eyes: $\frac{2}{7} = 0.29$

Brown/Blue eyes: $\frac{8}{28} = 0.29$

FALSE

$\frac{2}{7} = \frac{8}{28}$

5. The table to the right gives information about numbers of students who do and don't do chores and do and don't collect allowance.

	Allowance	No Allowance	
Do Chores	13	3	16
Do Not Do Chores	5	4	9
	18	7	25

Are students who do not collect allowance more likely to not do chores?

No allowance/No chores: $\frac{4}{7}$

No allowance/chores: $\frac{3}{7}$

YES

$\frac{4}{7} > \frac{3}{7}$

Is it more likely for a student who does not do chores to collect allowance than it is for a student who does chores?

NO chores/allowance: $\frac{5}{9} = 0.56$

chores/allowance: $\frac{13}{16} = 0.81$

NO

$\frac{5}{9} < \frac{13}{16}$

What percent of all the students Do Chores and get Allowance?

$\frac{13}{25} = 0.52 = 52\%$