

## Secondary II Unit 14 – Probabilities: Assignment 14.6

### Categorical Data

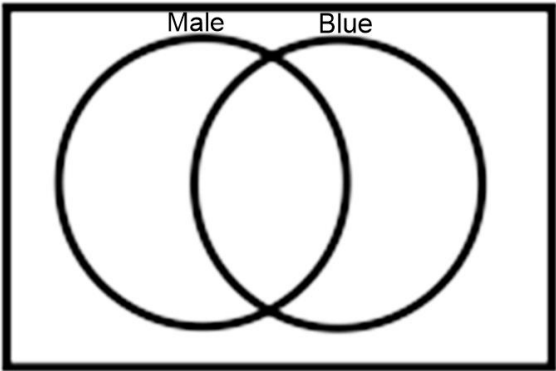
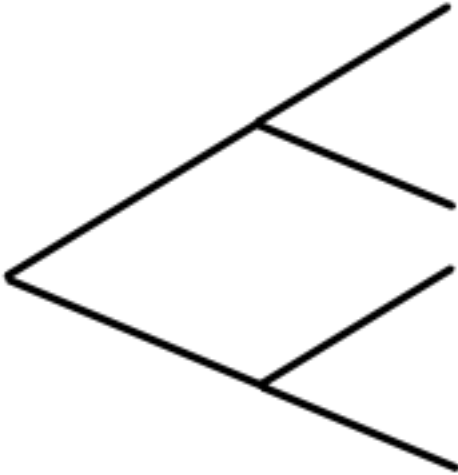
Name: \_\_\_\_\_

Hour: \_\_\_\_\_

#### Part I

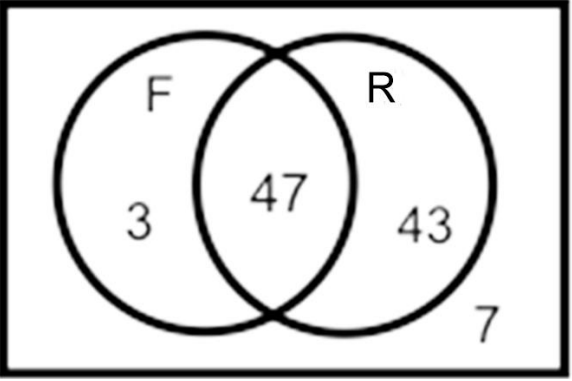
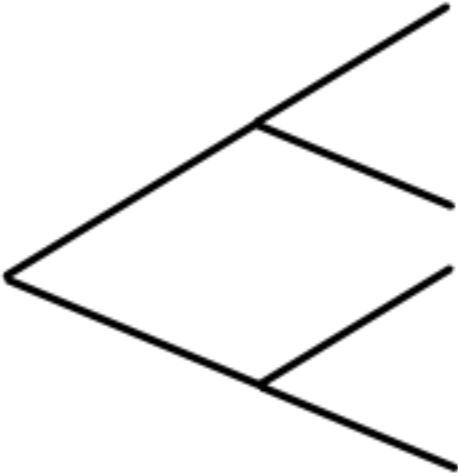
What's your favorite color?

When asked this question, the most popular color named was blue.

Symbols	2-way Table																
<p>Key:                      Male = M                  Female = F                      Blue = B                  Not Blue = N</p> <p>Sample size = 200</p> <p><math>P(B) = 84/200</math></p> <p><math>P(M) = 64/200</math></p> <p><math>P(F B) = 48/84</math></p> <p><math>P(B F) =</math></p> <p><math>P(M \cap B) =</math></p> <p><math>P(M \cup B) =</math></p>	<table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 15%;"></th> <th style="width: 25%;">Blue</th> <th style="width: 25%;">Not Blue</th> <th style="width: 35%;">Total</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Male</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">Female</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">Total</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Blue	Not Blue	Total	Male				Female				Total			
	Blue	Not Blue	Total														
Male																	
Female																	
Total																	
Venn Diagram	Tree Diagram																
																	

## Part II

Are you a lefty or a righty?

Symbols	2-way Table																
<p>Key:  Male = M                  Female = F  Lefty = L                 Righty = R</p> <p>Sample size =</p> <p><math>P(L) =</math></p> <p><math>P(M) =</math></p> <p><math>P(F) =</math></p> <p><math>P(L F) =</math></p> <p><math>P(L M) =</math></p> <p>In this sample are there equal proportions of males and females who are left handed? Explain.</p>	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 15%;"></th> <th style="width: 25%;">Lefty</th> <th style="width: 25%;">Righty</th> <th style="width: 35%;">Total</th> </tr> </thead> <tbody> <tr> <td style="text-align: left;">Male</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: left;">Female</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: left;">Total</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Lefty	Righty	Total	Male				Female				Total			
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Female																	
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Venn Diagram	Tree Diagram																
																	

**Part III**

Do you eat breakfast or not?

Symbols	2-way Table																
<p>Key:            Male = M                  Female = F            Eats Breakfast = E      Doesn't Eat Breakfast = D</p> <p>Sample size =</p> <p><math>P(E) =</math></p> <p><math>P(E M) =</math></p> <p><math>P(E \cap M) =</math></p> <p><math>P(E F) =</math></p> <p><math>P(E \cap F) =</math></p>	<table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;"></th> <th style="width: 20%;">Eats</th> <th style="width: 20%;">Doesn't</th> <th style="width: 10%;">Total</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Male</td> <td style="width: 40px; height: 40px;"></td> <td style="width: 40px; height: 40px;"></td> <td style="width: 40px; height: 40px;"></td> </tr> <tr> <td style="text-align: center;">Female</td> <td style="width: 40px; height: 40px;"></td> <td style="width: 40px; height: 40px;"></td> <td style="width: 40px; height: 40px;"></td> </tr> <tr> <td style="text-align: center;">Total</td> <td style="width: 40px; height: 40px;"></td> <td style="width: 40px; height: 40px;"></td> <td style="text-align: center; vertical-align: middle;"><b>600</b></td> </tr> </tbody> </table>		Eats	Doesn't	Total	Male				Female				Total			<b>600</b>
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