

MTH 154 Homework #5 Key

1. a. .45 ~~not forested~~ $1 - .45 = .55$ not forested
- b. $0.45 + 0.03 = 0.48$, $1 - 0.48 = 0.52$ not forest or pasture
- c. 0.52

2. a. $0.55 + 0.45 = 1.00$ yes
- b. $0.4 + 0.4 + 0.4 + 0.4 = 1.6$ no
- c. $0.1 + 0.2 + 0.2 + 0.1 + 0.1 = 0.9$ no

3. 10 people - No religion 1 or 2
 Muslim = 2 approx
 non-monotheists - 4 or 5

we can designate a range of #'s to correspond to the probabilities and then use a simulation to see what #'s we get.

4. $2/10 + 2/10 + 2/10 - 3(4/100) + 8/1000 = .483$

Simulations will vary.

My simulation gives 56%

it's not sense if she failed once, she seems more likely to fail next time.

5. a. 300

b. nothing - because of emphasis, our brain's focus on avoiding loss rather than possible gain.

6. # 10.20

7. table in Excel.

- b. 218/399
- c. 86/399
- d. 48/399
- e. $(218 + 86 - 48) / 399 = 256 / 399$
- f. $1 - \frac{256}{399} = \frac{143}{399}$
- g. 48/218
- h. 48/86

8. table in Excel.

- b. 307/750
- c. 153/750
- d. 98/750
- e. $(307 + 153 - 98) / 750 = 362 / 750$
- f. $1 - 362 / 750 = 388 / 750$
- g. 98/153
- h. 98/307