

| <u>Gender</u> | <u>Male</u> | <u>Female</u> | <u>Total</u> |
|---------------|-------------|---------------|--------------|
| Employed | 11.2 | 10.4 | 21.6 |
| Unemployed | <u>1.6</u> | <u>1.4</u> | <u>3.0</u> |
| Total | 12.8 | 11.8 | 24.6 |

3. Use the above data to find the probability that a randomly selected person is a female given that the person is employed.

$$P(\text{Female} \mid \text{Employed}) = P(\text{Employed and Female}) / P(\text{Employed})$$

$$P(\text{Female} \mid \text{Employed}) = (10.4/24.6) / (21.6/24.6) = 10.4/21.6$$

$$P(\text{Female} \mid \text{Employed}) \sim$$

| |
|-------|
| 0.481 |
|-------|

An easy way to calculate this is to isolate the row for employed and divide female by employed.

| <u>Gender</u> | <u>Male</u> | <u>Female</u> | <u>Total</u> |
|---------------|-------------|---------------|--------------|
| Employed | 11.2 | 10.4 | 21.6 |

$$P(\text{Female} \mid \text{Employed}) = 10.4/21.6 \sim 0.481$$