Conditional Probability

▪ Contains a condition that *limits (or restricts)* the sample space for an event

3

Conditional Probability

▪ Written as

$$P(B \mid A)$$

*"The probability of event B, **given** event A"*

4

Conditional Probability Formula

$$P(B \mid A) = \frac{P(A \cap B)}{P(A)}$$

5

The table shows the results of a class survey, "Do you own a pet?" **Find *P*(own a pet | female).**

	Yes	No
Female	8	6
Male	5	7

6

The table shows the results of a class survey, "Did you wash the dishes last night?" **Find *P*(wash the dishes | male).**

	Yes	No
Female	7	6
Male	7	8

7

Using the data in the table, find the probability *(as a percent)* that a sample of not recycled waste was plastic. **P(plastic | not-recycled).**

	Recycled	Not Recycled
Paper	34.9	48.9
Metal	6.5	10.1
Glass	2.9	9.1
Plastic	1.1	20.4
Other	15.3	67.8

8