

Practice 12-5 Independent and Dependent Events

A shelf holds 3 novels, 2 biographies, and 1 history book. Two students in turn choose a book at random. What is the probability that the students choose each of the following? *dependent*

- 1. both novels $\frac{1}{5}$
- 2. both biographies $\frac{1}{15}$
- 3. a history, then a novel $\frac{1}{10}$
- 4. both history books 0

Meg flipped a penny the given number of times. What is the probability the results were as follows? *Independent*

- 5. 2; two heads $\frac{1}{4}$
- 6. 3; three tails $\frac{1}{8}$
- 7. 2; a tail, then a head $\frac{1}{4}$
- 8. 5; five tails $\frac{1}{32}$

Two puppies are chosen at random from a box at the mall. What is the probability of these outcomes?

Free Puppies for Adoption!
 5 black retrievers
 3 brown hounds
 4 black setters

Dependent

- 9. both black $\frac{6}{71}$
- 10. both brown $\frac{1}{22}$
- 11. a setter, then a hound $\frac{1}{11}$
- 12. a retriever, then a setter $\frac{5}{33}$
- 13. both setters $\frac{1}{11}$

Are the events independent or dependent? Explain.

14. A guest at a party takes a sandwich from a tray. A second guest then takes a sandwich.

Dependent; The 2nd guest's choice is limited by the 1st guest's choice

15. Sam flips a coin and gets heads. He flips again and gets tails.

Independent; 2nd flip is NOT affected by the 1st

You can select only two cards from the right. Find the probability of selecting a T and an N for each condition.

M	A	T	H
I	S		
F	U	N	

16. You replace the first card before drawing the second.
Independent $\frac{1}{81}$

17. You do not replace the first card before drawing the second.
Dependent $\frac{1}{72}$