

PROB STAT HONORS

 Name _____

UNIT 6 REVIEW

Oil from the poison ivy plant was rubbed on a patch of skin. For 500 of the subjects, it was washed off within five minutes. For the other 500 subjects, the oil was washed off after five minutes. The results are summarized in the table below.

Reaction	Within 5 Minutes	After 5 Minutes
None	420	50
Mild	60	330
Strong	20	120

Use this information for questions 1 – 5.

1. Find the probability that a randomly selected subject had a mild reaction.
2. Find the probability that a randomly selected subject had no reaction or washed the oil off within five minutes.
3. Find the probability that a randomly selected subject had a strong reaction and washed the oil off after five minutes.
4. Find the probability that a randomly selected subject had no reaction, given that they washed the oil off within five minutes.
5. Are the events *had a strong reaction* and *washed the oil off after five minutes* independent?

A manufacturer makes three models of a television set, models A, B, and C. Bob's store sells 40% of model A sets, 40% of model B sets, and 20% of model C sets. Of model A sets, 3% are 4KHD; of model B sets, 7% are 4KHD; and of model C sets, 9% are 4KHD.

Use this information for the next two questions.

6. One television is selected at random. What is the probability that it is model B, given that it is 4KHD?
7. Are the events *the television is model A* and *the model is 4KHD* independent?

Of Americans using library services, 67% borrow books.

Use this information for the next two questions.

8. If five patrons are chosen at random, what is the probability that all borrowed books?
9. If five patrons are chosen at random, what is the probability that none borrowed books?

A box contains 5 red balls and 3 black balls. You draw two balls, not replacing the first before drawing the second. Use this information for the next three questions.

10. What is the probability that the first ball is red and the second ball is black?
11. What is the probability that the first ball is black and the second ball is red?
12. What is the probability of drawing one red and one black in either order?