**NAME:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Conditional Probability (5-2) Homework**

Q1. A school library classifies its books as hardcover or paperback, fiction or nonfiction,

and illustrated or non-illustrated. Use the table below to answer the three multiple choice questions.

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Illustrated | Non-illustrated |
| Hardcover | Fiction | 420 | 780 |
| Hardcover | Nonfiction | 590 | 250 |
| Paperback | Fiction | 150 | 430 |
| Paperback | Nonfiction | 110 | 880 |

1. What is the probability that a book selected at random is a paperback, given that it is illustrated?
2. 260/3610
3. 150/1270
4. 260/1270
5. 110/150
6. What is the probability that a book selected at random is nonfiction, given that it

is a non-illustrated hardcover?

1. 250/2040
2. 780/1030
3. 250/1030
4. 250/780
5. What is the probability that a book selected at random is a paperback?
6. 1/1570
7. 260/1310
8. 1570/2040
9. 1570/3610

Q2. Characteristics of Job Applicants:

|  |  |  |
| --- | --- | --- |
|  | Has job experience | No job experience |
| Has a high school diploma | 54 | 27 |
| Does **not** have h.s. diploma | 5 | 4 |

Find the following probabilities:

1. P(has diploma)
2. P(has diploma and experience)
3. P(has experience given has diploma)
4. P(has no diploma given has experience)

Q3. Projected Number of College Degree Recipients (in thousands) in 2016

|  |  |  |
| --- | --- | --- |
|  | Male | Female |
| Associate’s Degree | 245 | 433 |
| Bachelor’s Degree | 598 | 858 |
| Master’s Degree | 293 | 376 |

Find each probability:

1. P(recipient is male)
2. P(degree is a bachelor’s)
3. P(female given master’s degree)
4. P(degree is NOT associate’s given recipient is male)