**MAT150 Statistics Assignment #10** [**www.helpyourmath.com/150.5**](http://www.helpyourmath.com/150.5)

1. Determine if the following is a probability distribution. Justify your answer.

 a.

|  |  |
| --- | --- |
| 𝑥  | P(𝑥)  |
| 0  | 0.04  |
| 1  | 0.33  |
| 3  | 0.42  |
| 4  | 0.19  |
| 5  | 0.02  |

b.

|  |  |
| --- | --- |
| 𝑥  | P(𝑥)  |
| -1  | 0.48  |
| 3  | 0.22  |
| 5  | 0.14  |
| 6  | 0.15  |

1. Fill out the blank to make the given table a probability distribution.

|  |  |
| --- | --- |
| 𝑥  | P(𝑥)  |
| 0  | 0.03  |
| 1  | 0.14  |
| 2  | 0.65  |
| 3  |   |
| 4  | 0.08  |

1. For the probability distribution below find the mean, variance, and standard deviation.

|  |  |  |  |
| --- | --- | --- | --- |
| 𝑥 | P(𝑥)  | 𝑥P (𝑥)  | 𝑥2P(𝑥)  |
| 0  | 0.15  |   |   |
| 1  | 0.20  |   |   |
| 2  | 0.35  |   |   |
| 3  | 0.22  |   |   |
| 4  | 0.08  |   |   |
|   |   |   |   |

1. The probability distribution shows the cups of beer American Adults consume every week. Find the expected value of cups of wine American Adults consume every week.

|  |  |  |
| --- | --- | --- |
| 𝑥  | P(𝑥)  | 𝑥P(𝑥)  |
| 0  | 0.4  |   |
| 1  | 0.1  |   |
| 2  | 0.3  |   |
| 5  | 0.15  |   |
| 10  | 0.05  |   |