**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 |  |