# Basic Probability Classwork

1. Given the following probability distribution for the random variable x.

|  |  |
| --- | --- |
| Random Variable, x | Probability |
| 1 | 0.23 |
| 2 | 0.09 |
| 3 | ? |
| 4 | 0.26 |
| 5 | 0.04 |
| 6 | 0.18 |

* 1. What is the probability that the random value has a probability of 3? *0.2*
  2. find P(x=4) *0.26*
  3. Find P(x<5) *0.18*
  4. find P(x<2) or P(X>5) *0.5*

1. Which of the following cannot be the probability of some event? (may be more than one answer)
   1. 9.97
   2. -0.01
   3. 0
   4. .36
2. The following statistics are available on how 702,000 Americans get to work:

|  |  |  |
| --- | --- | --- |
|  | By car | By public transportation |
| Urban worker | 470,000 | 157,000 |
| Rural worker | 70,000 | 5,000 |

If one worker is selected at random, what is the probability that he is :

1. an urban worker *0.89*
2. comes to work by car *0.769*
3. a rural worker who uses public transportation *0.007*
4. What's the probability of rolling two dice and getting a sum of 4? *0.083*
5. What's the possibility of tossing a coin twice and getting a heads and a tails? *0.5*
6. Determine which of the events are mutually exclusive:
   1. being overweight and having high blood pressure
   2. being a delinquent tenant and a punctual tenant at the same time