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| 3,. Explain what outcomes of an experiment are. What does it mean to have equally likely outcomes? Provide examples to illustrate.Solution:Outcomes of an experiment are the results of any performed experiment. Two equally likely outcomes indicate that each of these outcomes appeared the same number of times.Like while tossing a coin getting a head or a tail as each of them appears equal number of times on a coin. |

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|  | Comment to RobinHi Robin, does this mean that you would toss the coin a few times in order to determine the chances of getting H or T. although it is a 50% chance that you may get either or more than the other.[**Respond**](http://myeclassonline.com/ec/thd/thd.learn?CourseID=3565944&UnitNumber=5&COID=536&Mode=&TopicGroupID=15316496&ThreadViewMode=expanded&ThreadSortBy=&AdvOpts=&47=5355686&TopicID=2&RSOID=15316496&PageYOffset=676)    |

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|  | Robin: If you toss a coin x number of times, will it aways be (1/2)x for each: heads and tails? |

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| 8. Explain permutations and combinations and the differences between the two. Use examples to illustrate.We use permutation in cases where order is important and combination when order doesn't matter.Suppose we want to select a president, vice president and treasury out of 20 members assuming that the same person cannot hold more than one office, we will use permutations as order is important. But suppose if we want to select 3 members out of 20 members then we will use combinations as order does not matter[**Respond**](http://myeclassonline.com/ec/thd/thd.learn?CourseID=3565944&UnitNumber=5&COID=536&Mode=&TopicGroupID=15316496&ThreadViewMode=expanded&ThreadSortBy=&AdvOpts=&47=5355686&TopicID=3&RSOID=15316496&PageYOffset=747)    |

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|  | Comment to RobinHi Robin, this is a good example but I'm not sure I follow, so are you saying that out of 20 people you could only pick three people to fill the pres. vice.pres. and treas. seats and it doesn't matter what three people you chose for these positions. and when you select 3 people out 20 it does matter how you chose the person for the position. I think that's my understanding.[**Respond**](http://myeclassonline.com/ec/thd/thd.learn?CourseID=3565944&UnitNumber=5&COID=536&Mode=&TopicGroupID=15316496&ThreadViewMode=expanded&ThreadSortBy=&AdvOpts=&47=5355686&TopicID=3&RSOID=15316496&PageYOffset=747)    |

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|  | Robin: What would that look like numerically |

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1. (3 pts) Researchers find that the 2004 population of California was 35,893,799, the 2004 population of Pennsylvania was 12,406,292, and the total US population was 293,655,404. What is the probability that a randomly selected US resident did not live in California? Round to the nearest thousandth of a percent.