

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

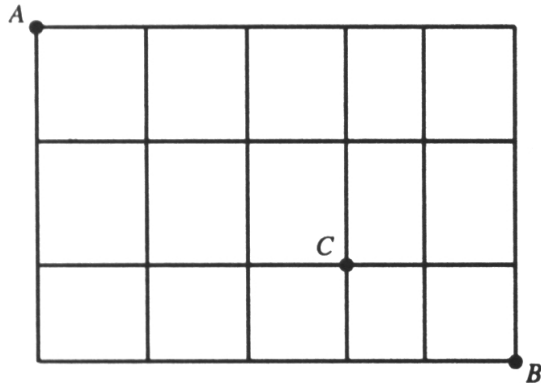
Solve the problem.

- 1) Suppose an experiment consists of tossing a coin seven times and recording the sequences of heads and tails. 1) _____
 (a) How many outcomes are possible?
 (b) How many outcomes have exactly three heads?
 (c) How many outcomes have at least three heads?

- 2) An urn contains four red balls and six white balls. A sample of four balls is selected. 2) _____
 (a) How many samples are possible?
 (b) How many samples contains exactly three white balls?
 (c) How many samples contain four white balls?

- 3) Consider the map of the streets in a certain city shown below. What is the total number of routes (with no backtracking) from A to B? 3) _____

- 4) In the street map shown below, how many of the routes from A to B pass through C (with no backtracking)? 4) _____



- 5) How many advisory committees can be formed with four professors and two students from a department with 10 professors and 50 students? 5) _____

- 6) In how many ways can you choose two groups of three people from among eight people? 6) _____

- 7) In how many ways can a jury of 12 people be chosen from an available pool of fourteen women and six men if the jury must consist of eight women and four men? 7) _____

- 8) In how many ways can a committee of seven people be chosen from 15 married couples if:
 (a) two particular couples must be on the committee?
 (b) no married couples may be on the committee? 8) _____

- 9) There are 25 quarts of milk on a supermarket shelf, four of which are spoiled. A customer buys three quarts of milk. 9) _____
 (a) How many samples are possible?
 (b) How many samples contain exactly two quarts of spoiled milk?
 (c) How many samples contain at least two quarts of spoiled milk