

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

Solve the problem.

- 1) How many different outfits can be selected from 3 suits, 5 shirts, and 2 hats? 1) _____
- 2) How many five digit license plates can be formed allowing repetition of letters and numbers including 0? 2) _____
- 3) Toss a coin four times. How many possible sequences of heads or tails are there? 3) _____
- 4) Eight horses are entered in a race. In how many ways can they cross the finish line if ties are not allowed? 4) _____
- 5) An exam contains 5 multiple-choice questions, each having 4 possible answers. In how many different ways can the exam be completed? 5) _____
- 6) How many four-digit codes can be formed using the digits 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 if the last digit cannot be 0 or 1 or 2 and repetition of digits is allowed? 6) _____
- 7) How many 4-letter words can be made from the letters of "MISSISSIPPI" if the words must begin with an S and letters cannot be repeated? 7) _____
- 8) How many four-digit sequences can be formed allowing no repetition of digits? 8) _____
- 9) How many six-letter words can be formed from the letters in "STABLE" if the first two letters must be vowels and repetition is allowed? 9) _____
- 10) Assuming that you can get a customized license plate where there it must consist of a distinct letter followed by any combination of four letters or digits, how many different custom license plates can be printed? 10) _____
- 11) The letters of the word "PENCIL" are arranged in a random order. 11) _____
 - (a) How many different arrangements are possible?
 - (b) How many start with a vowel?
 - (c) How many start with "E" and end with "C"?
- 12) How many four-letter words can be made from the letters of "MISSISSIPPI," if 12) _____
 - (a) letters can be repeated?
 - (b) letters cannot be repeated?
- 13) An experiment consists of four trials of tossing two indistinguishable coins and recording the combination of heads and tails. 13) _____
 - (a) How many outcomes are possible per trial?
 - (b) How many complete experiments are possible?
- 14) You are to create a secret four-digit code for your ATM card using the digits 0 to 9. 14) _____
 - (a) How many different codes can be made?
 - (b) If you are only allowed to use a digit once, how many different codes can be made?